POLSKA AKADEMIA UMIEJĘTNOŚCI
INSTYTUT EKONOMICZNY

STUDIA EKONOMICZNE

ECONOMIC STUDIES

VI

KRAKÓW 1939
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SKŁAD GŁÓWNY W KSIĘGARNIACH GEBETHNERA I WOLFFA
WARSZAWA — KRAKÓW — ŁÓDŹ — POZNAŃ — WILNO — ZAKOPANE

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ADRES:

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THE LATE PROFESSOR WŁADYSŁAW ZAWADZKI AS A THEORIST

The late professor Władyslaw Zawadzki who died on April 12-th this year was one of the leading scientific economists in Poland. The influence of his ideas was felt far beyond the frontiers of our country and the name of Władysław Zawadzki was widely known in the world. His creative thought covered a very wide range of theoretical problems. An eminent representative of the mathematical school of economics, he was also a prominent sociologist. In this respect he resembled Vilfredo Pareto whom he considered to a large extent as his master. In the near future we may look for a detailed monograph on Władyslaw Zawadzki's theoretical outlook and his role in contemporary economics. I wish, in the meanwhile, to outline broadly the most important aspects of his scientific views.

Methodological Views.

"The role of theoretical or abstract economics is the investigation of economic life as it would be if people, in their economic activities, always followed a certain fundamental tendency" says Zawadzki in the introduction to *Les Mathématiques appliqués à l'économie politique (The Application of Mathematics to Political Economy)*, Paris 1914 [1].

The foundation of abstract investigations which finds its fullest expression in the theories of David Ricardo, is, according to professor Zawadzki, the most fertile method of investigation

[1] See page 9.

in the realization of the fundamental links between the particular elements of economic life. Obviously the assumptions chosen as the starting point of investigations should resemble reality as closely as possible. So the choice of these assumptions should be based on the observation of facts and induction; but when certain assumptions have been chosen the basic method of theoretical investigation is deduction. This is why Zawadzki considered that not only the posession of the necessary knowledge, but also and primarily, the education and training of the power to think exactly was essential in all serious scientific work. That is why, as a professor and teacher, he specially valued in his students the ability to deduce and to formulate their thoughts exactly. The power to apply exact thinking to economic studies is one of the characteristics of the late professor Zawadzki's activities as a scientist and teacher.

The foundation of investigations on certain assumptions made a priori makes the mental work of the theoretical economist like the solving of mathematical problems. It suggests the application of mathematics to economics. To this problem the late Władysław Zawadzki devoted a great part of his scientific efforts. In this way he came to write his first great work: *Les Mathématiques appliqués à l'économie politique* published in French, in Paris (1914) and shortly afterwards in Polish in Wilno. In this book he analysed various efforts to apply mathematics to economics starting with efforts made in the first half of the XIX century by M. F. Canard, W. Whewell, von Thünen, and Cournot. After this he proceeds to the works of H. H. Gossen, W. Stanley Jevons, Leon Walras and authors contemporary at the time when the book was written; he devotes a great deal of space to his favourite author Vilfredo Pareto. With the passage of time this book became famous among theoretical economists. The name of Władysław Zawadzki became one of the best known among the representatives of the contemporary mathematical school. In 1930 we see him as one of the original members of "The Econometric Society" he was also elected a member of the first committee of the society.

The abstract and mathematical method is not the only

one which he recognizes in the field of theoretical economics. In his opinion two kinds of factors go to the forming of economic life. Factors of the first kind can only be imagined as part of economic life, outside of this they can have no existence. These are such factors as prices, supply, demand, wages, rate of interest, the quantity of goods produced or sold, the state of employment etc... All these are phenomena which can, to a certain extent, be expressed quantitatively. And so Zawadzki calls them economic magnitudes.

The factors of the second kind have also a great influence on economic life but are not typically economic factors. These are the number of population, its needs, preferences, tastes, morality, the developement of science, technical knowledge, the legal and administrative system etc... These phenomena form the uneconomic basis of economic life. Władysław Zawadzki calls them elements of economic life.

In the opinion of professor Zawadzki economics should investigate economic magnitudes as well as the elements of economic life. The disregard by some economists of the importance of changes in the elements of economic life is unjustifiable. The influence of this uneconomic basis often explaines concrete instances of economic relations. Nevertheless the methods of investigating them should be different. The best method of investigating economic magnitudes and their relations is that of abstract deduction and of mathematical analysis. In contemporary theoretical economics they find their expression in the concept of equilibrium. When one comes to consider the influence of the uneconomic basis the best method is that of historical and sociological investigations. Professor Zawadzki was not only a mathematical economist but also a sociologist. Having considered both these sides of his scientific activity we can realize the scope of his intellect.

The Theory of Equilibrium.

The concept essential to the discovery of the interdependence existing between economic magnitudes is, according to prof. Zawadzki, the concept of equilibrium. He devotes half of his book *The Application of Mathematics to Political Economy* to

the history of the concept of equilibrium and the elucidation of its subtler aspects. He used to divide his course of lectures into two parts, the theory of equilibrium and the theory of production [1].

Władysław Zawadzki defined equilibrium as a state which would be reached by economic magnitudes as a result of mutual reactions, if the elements of economic life remained unchanged for any length of time. The state in which economic magnitudes would remain constant or though changing would repeat themselves identically at regular intervals, could exist for ever and ever if the economic elements remained unchanged. So the use of the concept of equilibrium is to determine the conditions in which the equilibrium would arise. This is what prof. Zawadzki in his lectures called: seeking for the conditions of equilibrium. This end can be attained either by abstract deductions as professor Zawadzki usually did in his lectures or in a more exact way by the application of mathematical formulae, which was his method in his private investigations. In this last case seeking for the conditions of equilibrium usually takes the form of determining unknowns by the system of equations.

The full realization of the state of equilibrium is, in economic reality, difficult to imagine. It is not easy to suppose that the elements would remain unchanged for any length of time. Inspite of this the determination of the conditions of equilibrium can be of service to a practical economist [2]. Because in this way one determines the ultimate ends to which economic magnitudes, through their changes, are tending at a given moment and so determines economic tendencies [3].

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[1] On the subject of the difference between his concept of equilibrium, which corresponds more or less to the concepts of L. Walras and V. Pareto, and other concepts see *Dwie koncepcje równowagi ekonomicznej (Two Concepts of Economic Equilibrium)* by W. Zawadzki, Ekonomista 1938, nr. III also *Nowa teoria pieniądza Keynesa (Keynes' New Theory of Money)* Ekonomista 1936, nr. III.

[2] *Pojęcie równowagi ekonomicznej (The Concept of Economic Equilibrium)*, Ekonomista 1928.

[3] In the terminology used by prof. Zawadzki in his lectures he discriminated between economic tendencies and tendencies of economic development. An economic tendency is the direction of the changes of

Prof. Zawadzki considered that the use of abstract reasoning by practical economist is not entirely without danger. The deductions drawn on certain assumptions are only valid as long as these assumptions remain unchanged. As soon as these assumptions change, the deductions must also be correspondingly adjusted. To build up an economic policy based on abstract economics would be, in the opinion of prof. Zawadzki a very risky proceeding. It is necessary to bear in mind the discrepancies between the reality of economic life and the simplifications assumed as the starting point of theoretical investigation. In prof. Zawadzki's opinion the considerations of problems which come within the limits of the theory of equilibrium is in the nature of research and so he did not try to draw any conclusions of an economico-political character. Thus he, as a theoretical economist did not represent any particular economico-political tendency. His theoretical ideas were usually based on the concept of ideal freedom in economic activity. This however did not mean that he was in favour of economic liberalism. Taking into consideration the difference between reality and the assumptions made in theoretical investigations on one hand and the uneconomic aims and ideals on the other, one may realize the necessity of directing economic policy towards far reaching interventionism. In this respect abstract investigations in the field of equilibrium do not create any inviolable laws.

In his lectures prof. Zawadzki discriminated between the following concepts of equilibrium:

1. The equilibrium of individual economy. In this case we consider as given the quantity of means at the disposal of the individual, and prices. The problem is how the individual will divide his means between different needs; to what extent, adjusting himself to existing prices and the means in his posession, he will buy or sell various goods.

2. The equilibrium in "simple" exchange. In this case the prices and the quantities exchanged are considered as

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economic magnitudes on the assumption that the elements of economic life remain constant. A tendency of economic development is a direction of changes of the whole of economic conditions related to changes of the elements of economic life.

unknowns, the amount of goods and the amount of capital are given. This conception defines economic tendencies for a short period of time during which the changes in prices, demand and supply do not cause changes in the amount produced.

3. The equilibrium of „simplified exchange of goods". In this case we assume that the amount of commodities produced can change but the amount of real and money capital remaines constant during the period under consideration.

4. General economic equilibrium. In this case we consider as changeable all economic magnitudes and seek for the system of equations, which form the conditions of equilibrium.

Applying the concept of equilibrium has — according to prof. Zawadzki — yet another advantage. Namely that the notion of value in exchange loses all significance as a scientific explanation of the forming of conditions of exchange. During the whole of the XIX century economic thought was burdened with the hypothesis that "it is possible to discover the cause of value, which would explain the fact that one thing is exchanged for a certain amount of another and this would, at the same time, define the rate of exchange" [1]. Some writers went even further and treated value in exchange as an existing objective property of goods [2], the discovery of which is the key to the process of price formation. It is the disposition of the human mentality to explain various phenomena by a single cause that appears in this attachment to the concept of the value in exchange as a fundamental factor accounting for the price structure. Reality is different: nearly every phenomenon is the result of the action of many interrelated forces. The theory of equilibrium enables us to take into consideration all these numerous forces. "This theory developes and expressses in an exact way this idea of mutual dependance and the simultaneous expression of all economic magnitudes. It gives us the only correct solution of the problem and teaches us that prices (i. e. the prices of commodities as well as the prices

[1] *The Application of Mathematics to Political Economy*, page 231—2.

[2] Ibid. page 232.

of production services) must reach such levels as to fulfill all the conditions necessary for the establishment of equilibrium, in other words, must fulfill all equations. In this respect this theory substitutes the theory of value" writes professor Zawadzki [1].

Professor Zawadzki returns once more to the role of the theory of value in his long introduction to *Wartość i cena (Value and Price)* edited in 1919. In this introduction he proves, by detailed argument that "the concept of value in exchange as distinct from price (the simple rate of exchange) cannot be created without contradiction and is useless in political economy [2].

Discarding the idea of value in exchange as an aid to scientific thought on the processes of exchange, Zawadzki concentrated his interest on the problem of value as some sort of phenomenon of economic psychology. The concept of value in exchange is in itself a fiction, in concrete reality which surrounds us there is nothing which corresponds to this concept. Because of the fact that this concept, however fictious, is obstinatly held in economic thinking it becomes a factor forming economic reality. He considered this concept in this light in his lectures and tried to explain the idea of value most generally held. He even introduced this concept into some of his definitions. For instance Zawadzki's definition of money runs as follows — "It is a commodity accepted not because of its direct utility but in order to make further exchanges if the idea of constant and unrelative value is attached to it".

Theory of Production.

As I have mentioned above Zawadzki discriminated between two factors forming economic life: economic magnitudes and the elements of economic life. The theory of equilibrium gives us the correct method for the investigation of the magnitudes. It is not, however, adequate for the investigation of the elements which

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[1] *The Application of Mathematics to Political Economy*, pages 231—2.

[2] *Wartość i cena (Value and Price)* a selection from the works of Polish and foreign authors with an introduction by Władyslaw Zawadzki (Gebethner i Wolff, 1919) page XXXII.

constitute the uneconomic basis of economic life. In this case the wider application of the method of historical and sociological enquiry is necessary. To this problem Zawadzki devotes his second great work *Teoria produkcji (The Theory of Production)* Warszawa 1923. In this work Zawadzki develops a certain number of ideas which came to be evolved while studying several widely different authors, on one hand Marx, Proudhon and George Sorel and on the other Max Weber and Werner Sombart. In the introduction to *The Theory of Production* Zawadzki underlines specially the influence which George Sorel and Werner Sombart had on him.

The fundamental problem considered in *The Theory of Production* can be summed up in the question, in what way various psychological, ideological, religious, legal, or political sets of conditions influence production. The three fundamental concepts at the root of these discussions are those of regular production, of conditions of production and of the type of production.

According to prof. Zawadzki production can be called regular when in a given society, the same possibilities of production are always exploited. For instance the constant exploitation of the possibilities of production which give the initiators of production the greatest monetary profit is characteristic of that set of conditions which Zawadzki calls „commodity — individualistic production". In *The Theory of Production* Zawadzki does not occupy himself with conditions of production in general but only with the conditions of regular production.

The problem of the conditions of production presents a number of difficulties. Most frequently some phenomenon acquires the character of condition of regular production not of its own accord but because of the existence of another set of phenomena. For instance in modern factory production and highly developed technical division of labour, the worker's habit of starting and finishing his work very punctually is most important, but it loses all its importance in the conditions which prevail in the workshop of a small artisan. The freedom of economic activity which in one set of conditions can help to establish regular production, can in other conditions help to disorganize it. In this way the phenomenon which in one set

of conditions may be essential, in another, may be superfluous and even harmful to the functioning of regular production. In connection with the different types Zawadzki divides the conditions of production into different categories: necessary, normal, unconditional, complementary, antagonistic etc. [1].

Regular production, according to Zawadzki, can only exist in a certain definite set of different conditions, "in certain combinations of phenomena complementary to each other and so adjusted as to make all moments of production harmoniously conditioned by them"[2]. Such combinations are called types of production. The number of possible types of production is limited because, "the phenomena which, in certain combinations (if it were possible for these combinations to exist) could in principle secure regular production cannot always exist simultaneously due to the relations between them on one hand and human nature and natural necessities on the other" [3]. On the foundation of extensive historical and sociological studies Zawadzki came to the conclusion that we can only imagine five types of harmonious production: 1) primitive, 2) compulsory, 3) patriarchal, 4) commodity-individualistic, 5) collective.

Zawadzki devotes the greater part of the work in question to the analysis of the conditions of functioning of these types. He pays special attention to the commodity-individualistic type as being nearest to contemporary reality. This type of production, thought Zawadzki, answers in general to the combination of conditions which, in the terminology of other economists is called, capitalistic economy. The contemporary theoretical economists generally consider commodity-individualistic production as actually in existance. Zawadzki contended that this was understandable but not necessary. We can also try to build up a theoretical system on the assumption of another type of production. In particular, he thought the regular collectivist production quite possible and tried to define the uneconomic conditions of such production.

The fundamental concept of *The Theory of Production* involves various consequences in the field of political economy.

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[1] *The Theory of Production*, Chapter II, page S III—V.

[2] Ibid. page 71. [3] Ibid. page 71.

The economic policy which tries to establish a certain regularity in production must realize as fully as possible the conditions of a certain type of production. This is why Zawadzki, being convinced of the possibility of realizing a regular collectivist production, was, at the same time, opposed to all radical social changes in conditions of capitalistic economy [1].

Interesting consequences also resulted from Zawadzki's opinion on historical development. In his opinion revolutionary rather than evolutionary development was possible. "No type of production was evolved by degrees from the previous — each type came about by violent revolution" [2] writes Zawadzki, in considering the possibilities of realizing the collectivist type of production. Certainly this does not mean that Zawadzki was an advocate of social revolution. To be an agitator for social revolution it is necessary to be convinced of the superiority of the collectivist form of production over the individualistic form and also to be convinced that social revolution creates not only the possibility but the certainty of realizing the collectivist form of production. When Zawadzki was writing his *Theory of Production* he was no longer convinced of the superiority of the collectivist over the individualistic type of production. Considering the possible results of revolution his opinion was that, "it is certain that long and intense class warfare must lead to the break-down of the individualistic type of production, but it is not certain that it would create the conditions of regular collectivist production". Which could only be attained in a very unlikly combination of circumstances [3].

This train of thought not only did not result in revolutionary opinions, but during the last twenty years of his life lead Władysław Zawadzki close to conservatism. But he was a conservative who knew and understood perfectly the most radical trends of social thought.

* * *

Shortly after the coup d'état in May 1926 the late prof. Zawadzki started to withdraw himself from theoretical work

[1] Ibid. page 503—16 and chapter III in the fourth part.
[2] Ibid. page 573. [3] Ibid. page 582.

and became occupied with practical problems. In 1929 he became the director of the Chamber of Industry and Commerce in Wilno, in 1931 he became Vice-Minister and in 1932 Minister of the Treasury. In the automn of 1935, he resigned from the Ministery and returned to scientific work. Then his interest was turned to the problems of money and credit. The result of this was the article on banks published in *Encyklopedia nauk politycznych (The Encyclopedia of Political Sciences)*, and a lecture entitled *Manipulowanie pieniądzem jako narzędzie polityki gospodarczej (The Manipulation of Money as an Instrument of Economic Policy)*, published as a separate pamphlet by the Economic Society in Cracow. At the same time he lectured on the theory of money in the Central School of Commerce in Warsaw. Besides this he began to occupy himself with abstract conceptions in economics. He published discussions on *Changes in the Price Level under the Influence of Maladjustment of Supply and Demand*, "Economica" (1937) and *Dwie koncepcje równowagi ekonomicznej (Two concepts of Economic Equilibrium)* "Ekonomista" (1938). He was specially interested in the movement centering around Keynes' ideas set forward in *The General Theory*. In connection with this he published in "Ekonomista" a very clear and interesting criticism of Keynes' ideas.

All those who, during recent years, were familiar with the work of the late Władysław Zawadzki were of the impression that a new period of his scientific activity had begun. The death which cut short this activity was a heavy loss to economic science in Poland.

Streszczenie

Stanisław Swianiewicz: Ś. p. prof. Władysław Zawadzki jako teoretyk

Zmarły 12 kwietnia b. r. prof. Władysław Zawadzki był jednym z najwybitniejszych przedstawicieli szkoły matematycznej w ekonomii oraz wybitnym socjologiem. Streszczany artykuł ma na celu szkicowo tylko wskazać najbardziej istotne punkty jego poglądów naukowych.

Czynniki działające w życiu gospodarczym dzieli prof. Za-

wadzki na wielkości ekonomiczne, czyli zjawiska, które dadzą się pomyśleć wyłącznie na tle życia gospodarczego i które na ogół dadzą się ująć ilościowo, jak np. ceny, podaż, popyt, płace robocze, stopa procentowa, ilości dóbr wytworzonych lub sprzedanych, rozmiary zatrudnienia, oraz pierwiastki życia gospodarczego, to jest zjawiska stanowiące pozagospodarcze podłoże życia gospodarczego, jak np. ilość ludności, jej potrzeby, upodobania, gusty, jej poziom moralny, stan wiedzy i umiejętności technicznych, system prawny i administracyjny itd.

Badaniu stosunków zachodzących między wielkościami ekonomicznymi, poświęcone jest pierwsze wielkie dzieło prof. Zawadzkiego *Les Mathématiques appliqués à l'économie politique*. Najbardziej istotne jest tu pojęcie równowagi, które prof. Zawadzki określa jako stan, do którego doszły by na skutek wzajemnego oddziaływania wielkości ekonomiczne, gdyby pierwiastki życia gospodarczego pozostały przez dłuższy czas bez zmiany. Warunków równowagi poszukuje prof. Zawadzki drogą zastosowania formuł matematycznych. W normalnych warunkach pojęcie równowagi wyznacza nam nie stan, ale tendencje gospodarki.

Badanie równowagi za pomocą rozumowania matematycznego doprowadziło prof. Zawadzkiego między innymi do porzucenia pojęcia wartości zamiennej, jako jakiejś wielkości objektywnej i uzależnienia wartości od wszystkich innych wielkości ekonomicznych w ten sposób, by został spełniony warunek oznaczoności układu równań. Odrębnym zagadnieniem wartości interesuje się prof. Zawadzki tylko jako pewnym zjawiskiem psychologii gospodarczej.

O ile *Zastosowanie matematyki do ekonomii politycznej* poświęcone było głównie badaniu wielkości ekonomicznych, o tyle w drugim swym wielkim dziele *Teorii produkcji* zajmuje się przede wszystkim pierwiastkami życia gospodarczego. Dzieło to pozostaje pod wpływem Sorela i Sombarta.

Prawidłową produkcją nazywa Zawadzki taki układ stosunków, przy którym w danym społeczeństwie są stale wykorzystywane te same kategorie możliwości produkcyjnych. Na przykład stałe wykorzystywanie możliwości dających inicjatorom produkcji największy zysk pieniężny stanowi podstawową cechę tego układu stosunków, który Zawadzki nazywa typem

produkcji towarowo-indywidualistycznej. Na zasadzie studjów historycznych i socjologicznych dochodzi Zawadzki do przekonania, że możemy sobie wyobrazić tylko pięć harmonijnych typów produkcji: 1) pierwotny, 2) produkcji opartej na przymusie, 3) patriarchalny, 4) towarowo-indywidualistyczny, 5) kolektywistyczny. Szczególnie zajmuje się badaniem warunków gospodarki towarowo-indywidualistycznej i kolektywnej. Uważał bowiem za możliwą do pomyślenia prawidłową gospodarkę kolektywną. Będąc jednak zwolennikiem harmonijności typów produkcji był przeciwnikiem prób częściowej socjalizacji w warunkach gospodarki kapitalistycznej. Rozważania historyczne doprowadziły go do przyjęcia koncepcji katastroficznej, nie ewolucyjnej rozwoju; uważał iż „pewnym jest, że przedłużająca się, a bardzo intensywnie prowadzona walka klas, musi doprowadzić do rozbicia indywidualistycznego typu produkcji, ale nie jest pewnym, czy wytworzy warunki prawidłowej produkcji kolektywnej — to ostatnie da się przy bardzo trudnym zbiegu okoliczności osiągnąć". Dlatego prof. Zawadzki nie tylko nie był zwolennikiem rewolucji socjalnej, ale nawet w ostatnich latach życia zbliżył się ideowo do konserwatyzmu.

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18. Matematyczna szkoła w ekonomice (The Mathematical School in Economics). Encyklopedia Nauk Politycznych, Warszawa 1938, vol. III, p. 885—91.

19. Rozwój teorii pieniężnych w ostatnich czasach (Recent Development of the Theory of Money). Ekonomista, Warszawa 1939, nr I, p. 9—29.

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[1] This article is to appear shortly in English in Econometrica.

Forwards to:

1. Wartość i cena. Wypisy ekonomiczne (Value and Price. An Economic Selection), Warszawa 1919, p. VII—XXXV.

2. Böhm-Bawerk E., Kapitał i zysk z kapitału (Capital and Interest), Warszawa 1924, p. XI.

3. Cantillon R., Ogólne rozważania nad naturalnymi prawami handlu (General Considerations of the Natural Laws of Commerce) Warszawa 1938, p. 5—44.

ANTONI TOM

STABILITY OF FULL EMPLOYMENT

I

Since the appearence of Keynes' last book[1] the discussion of full employment may seem to be rather out of date, I think, however, that we are still far from the satisfactory solution of problems connected with it.

The discussion of classics raises doubts in some respects. Naturally every one is at liberty to make what assumption they please. If the assumptions are obviously far removed from reality it will make the application of the theoretical analysis to the actual conditions more difficult, but it will not destroy their theoretical value. It is a different matter when the train of reasoning is doubtful and this is the case in the Austrian school's theory of fluctuation[2]. The state of full employment can be assumed as the basis for theoretical analysis. But it must be rejected at the proper time, that is, when due to the disturbance in certain economic magnitudes[3], the un-

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[1] See John Maynard Keynes: *The General Theory of Employment Interest and Money.*

[2] The most representative book of this school is *Prices and Production* by F. A. Hayek.

[3] I use this term in the same meaning as the late prof. W. Zawadzki, that is in the meaning of phenomena which cannot be imagined apart from economic life (prices, wages, the amount of capital etc.). The subject matter of economics is thus the investigation of the changes in economic magnitudes the economic elements (human preferences, legal conditions etc.) remaining constant. See Zawadzki's article: *A Concept of Economic Equilibrium*, Ekonomista 1928, nr IV.

employment of men and capital would result. The Austrian school does not take into consideration these consequences of its assumptions. It considers the state of full employment as a permanent phenomenon and the problem of unemployment is outside the field of its discussions. Thus the results of its analysis are questionable. In this article I will try to show the principal causes of the instability of full employment and investigate the ways in which it can be at least temporarily stabilized.

For the time being the analysis in this article will be based on two simplified assumptions, namely I will consider the economic system as firstly isolated i. e. not exchanging with other countries, secondly as based on the free activity of private entrepreneurs. In other words I assume that the state does not make any large public investments or follow a policy of active intervention. Later on I will reject both these assumptions.

1. To define the state of full employment seems at first glance superfluous. It appears, however, that a few explanations would not be out of place as this idea is not as clear as it at first seems.

From the definition it means that the full capacity of existing factories and workshops is reached. In other words the elasticity of their supply is equal to zero. The smallest rise or change in production requires previous investments. At the same time the concept of full employment contains still another assumption. The full employment of all factors of production at the disposal of society is tacitly assumed. This means that there are no unemployed capital goods or labourers on the market. The result of this is that at the moment there is, at least in appearence, no possibility of investment.

The question arises whether "full employment" can be understood in the full meaning of the word. The state when all factors of production are completely employed is very unlikely to occur. It has nothing to do with economic reality. One of the factors will always be in relative surplus as compared with others. But even then full employment can exist in the sense that the elasticity of supply falls to zero. The cause is imperfect

substitution between factors of production [1]. Thus these which are in surplus cannot be transformed into others, and only in such a way can all factors of production be employed, which would bring about the maximum social productivity.

At once a difficulty arises. If a given factor is in surplus while others are fully employed then its price will probably start to fall. It is quite likely that the downward tendency will become general. If capital goods are in surplus it must cause a fall in their production and thus a fall in employment. If human labour is in surplus the level of wages will fall, this will diminish the demand for goods and will cause the secondary effect of a general downwards tendency. In such cases as the above, the state of full employment would be only an ephemeral phenomen. It would depend only on the velocity of reactions of certain economic magnitudes.

I do not think it is necessary to present the problem in such an extreme light, however, it is true that a surplus of capital goods would cause, though not at once, these effects. On the other hand superfluous labour could, under certain conditions, cause no fall in wages. If the unemployed were quite unqualified they could not compete with the employed. In these circumstances it is possible to conceive "full employment" while structural unemployment exists (at the same time there can be voluntary unemployment). Such a situation cannot be imagined (except as very transitory) if other factors of production than labour are in surplus. Further I will try to prove that the state of full employment can only be transitory even if we exclude the above difficulties.

2. The Austrian school considers that the impossibility of further investment makes the stabilization of full employment impossible, it prevents the completion of previously started "round about ways of production". It seems that the real difficulties are of quite a different character. Of them I will speak later. At present I will emphasize that even in such a situation further economic growth is possible.

Both conditions of full employment (the absence of free

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[1] See Kaldor's, *Stability and Full Employment*. Economic Journal, December 1938, pages 644, 645.

factors of production and the inelastic supply created by the existing equipment) cannot be understood unconditionally. Full employment will here mean the full employment with commodities at a given price and given remuneration for the services of factors of production. This concept has a technical and an economical aspect. The first concerns the physical impossibility of increasing production. Such a phenomenon is very rare. Generaly it is possible to produce some additional quantities of goods but the marginal costs will rise more than proportionally. With the present production equipment it is possible by raising the wages for additional hours of work to make the workmen increase the number of hours worked. Analogously the lack of unemployed on the labour market means only that others (i. e. voluntarily unemployed) find it does not pay them to work for such low wages. But it is likely that, with increased wages, at least some of them will start to work. The same can be said about other factors of production than labour, for instance, an unprofitable mine of iron ore can become profitable because of a rise in the price of pig iron which in turn would enable a number of enterprises to make investments. This cannot happen if there is a fixed level of prices. But it does not mean that the excessive use of some factors of production would always, and in any circumstances, be unprofitable. The impossibility of producing additional commodities at constant prices means, that under the circumstances, production has reached its highest level (if smaller quantities of these goods could be produced profitably). This means that from the economic point of view full employment has been reached. Further production is possible, technically speaking, but unprofitable. In the light of the above observations it appears that the concept of full employment is of a purely relative character.

This is one reason why investing and further economic development can exist in the state of full employment. The other reason is the existence of stocks of production goods in the hands of producers and merchants.

In general one can speak of non-superfluous stocks and superfluous or unintentional stocks. The first are the amounts of unsold goods in stock, the shortage of which would impede

economic activity, that is to say it would make the producer increase production and the wholesale merchant increase his purchases. These amounts are decided upon individually by each entrepreneur but rise in times of prosperity. In times of recession, when the demand for commodities decreases, only very small quantities are intentionaly kept in stock.

During full employment intentional stocks are large. Their existence increases the elasticity of supply, which during such periods, is very small. Thus investments are possible at the expense of reduced stocks of production goods. From a certain point of view, the existence of stock, is more important than the impossibility of increased profitable production. The point is that, having goods in stock, it is possible to make investments quickly. It is unnecessary to manufacture producers goods if they are already in stock. In this respect the state of full employment represents the greatest possibilities which result from comparatively unnecessary stocks. It is unnecessary to add that in the above argument I tacitly assumed the existence of structural unemployment of man power. Making investments is impossible when there is no unemployed labour. In the present circumstances it is difficult to suppose that such a case is far removed from reality.

It is clear that the accumulation of any superfluous stock whatsoever will very soon lead the producers to limit production. In other words it contradicts the assumption of relative full employment.

Two things make investments possible. The first is that the limits of full employment are very vague from the economic point of view. The limits of technical full employment are much wider and much more defined Thus the degree of economic full employment can, in principle, be enlarged. The second is that the existing stocks of producer goods on the market can be liquidated partially or entirely. Thus it will be possible to increase production without any great disturbance, and this allows further economic development. There will arise a tendency to renew the liquidated stock because of the new production equipment available.

II

3. Up to now I have been considering only the conditions on the supply side. It is, however, certain that the increament of investments does not only depend on the possibilities of producing more but equally on the expectations of profit. It is not enough to state that the perfect realization of the state of full employment is possible. In other words it is not sufficient to state that there are reserves of capital goods and labour. When considering full employment it is more important whether, in the long run, it pays entrepreneurs to make large investments. If it does not, the revival in all branches and all stages of production will not last.

Full employment of the whole system means full employment in all stages of production. Investing in the consumers goods industries necessary to maintain full employment in the higher stages of production. Otherwise there will not be enough demand for producers goods and there is no reason why the producers should not diminish production. Thus unemployment starts a cumulative downward tendency. The case when the demand for production goods for renewal purposes is just sufficient to employ the whole equipment of the higher stages is a very unusual coincidence. This would only be possible if the state intervened and that I do not wish to discuss here.

Thus it can be seen that the necessary condition for the stability of full employment is further development in the eunsumers goods industries. This is the first condition. The second is as follows[1]. In the higher stages of production, not only producers goods, which are directly applied in the consumption industries, are manufactured but also some machines and tools which serve to manufacture other producers goods. In other words, the second condition of full employment in the higher stages makes further development necessary. Again it is not likely that the production of these goods of the highest degree would not increase the demand for renewal purposes very much. And in any other case there will not be sufficient

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[1] This is not taken into consideration by Kaldor in the previously cited article.

demand for the producers goods of the highest degree. Their production will have to be limited.

Finally the condition essential to the stability of full employment is the increament of the production equipment both in the producers goods and the consumers goods industries. That means the broadening and lengthening of the process of production. It can last as long as the demand for consumers goods is increasing progressively. In other conditions it would pay nobody (or hardly anybody) to buy goods for investing. In the meantime while full employment exists, there is no reason whatsoever why social income should increase rapidly. At the same time society's propensity to consume rather decreases. Thus the investments will have to decrease rather than increase which causes the accumulation of too large stocks in the higher stages and thus partial unemployment.

There is still one factor acting in this direction, the equipment in the higher stages is generally bought with a view to further development. In other words it can manufacture more than the forseen demand for producers goods. So if investments decrease from the above causes, the unused part of the production capacity will be increased proportionally.

4. The question arises whether there is not, in the mechanism of capitalist economy anything which would restore full employment. The Austrian school would answer this with a fundamental argument. It is, however, only applicable in a very high degree of abstraction. Hayek in *Prices and Production* speaks of the transference of producers goods from one stage of production to another. In our case such a withdrawal of the adequate amount of producers goods to consumption goods industries where full employment still exists could be made.

In practice it is impossibly because of the high degree of specialization of production goods. The necessary transfer would very seldom pay because of the very high costs. The situation however, would not change very much even if all goods were unspecialized. Even in the case of the enterprises changing to the production of new goods it would be impossible as it would most likely take too long. Frictional unemployment of capital goods would cause a further fall in production in the

higher stages. Thus, even accepting such abstract assumptions, it appears that full employment is only a transitory phenomenon. If we abandon the reasoning of the Austrian school, which is too far from reality, we should obtain this result earlier, however, the representatives of this school considered full employment as a permanent state. After rejecting this assumption there would be nothing to justify the deductions based on them.

5. Up till now I have considered only the situation on the commodity market. It is certain that the money and credit factors can cause very far reaching changes. Will they act in the same way in our case? I do not think so. Money is a dependant and not an independent variable which would modify real relations.

In general the activity of the entrepreneurs can be financed in two ways: 1) through bank credit, 2) by the issue of shares. The first way is used during the early part of the boom, that is, when there are great actual possibilities of profit. As the boom develops the issue of shares comes more and more into play.

Banks create credit, that is lend, so long as they expect a further development of the prosperity. In the state of full employment creating credit is connected with greater uncertainty and so the premium must be greater. Thus the rate of discount increases in spite of the increament of the amount of bank deposits. At the same time banks start a restricting policy classifing creditors more carefully according to their solidity. In such a situation managing enterprises involves great difficulties, because of the insufficient supply of financial means.

It is, however, clear that the lack of an adequate supply of credit is, here, a secondary factor. The banks' supply of credit does not depend, at least in the situation in question, either on the amount of deposits in banks or on the will of managers. The decisive factor is the forseen demand for credit and the risk in lending, which depend in turn on the forseen profitability of enterprises. When in full employment there are only very small possibilities of investing, the supply of credit is falling and the rate of discount increasing. Thus possibilities of profitable investments (and some possibilities still exist) are very limited.

So if bank credit were the only way of financing the enterprises, difficulties would be encountered at once. But as the boom develops the issue of shares is more and more important. There is no reason for its decrease while full employment exists. People buying shares do not realise a joint stock company's possibility of development. The expectations of the man in the street are only based on the tendency of development during previous years. A high dividend is a magnet attracting buyers. This tendency of development is a thing of the past, it is not actual, tells us nothing of the future possibilities of the enterprise.

Banks are, in general, posessed of much better information. Thus there is very little likelihood that they will be attracted by high dividends payed a short time ago. If there exist only small money savings in the society[1] then credit difficulties will very soon arise in the state of full employment and the downward tendency will be speeded up. It would be imagined that the cause of the decline are money and credit conditions but this is only an appearance because the real cause is the condition of the commodity market.

From this it results that rich countries have more chance of maintaining prosperity than the poor countries. They can postpone the beginning of depression, but this is their only advantage. When external influences are absent the downwards tendency will have to appear regardless of the wealth of the country. Later on it will be seen that there are some other factors in action. Before examining them it is impossible to say whether rich or poor countries have the best chance of maintaining full employment.

6. Too small a demand for producers goods is the most probable and most fundamental cause of the break-down. This lack of demand is the result of too small a rise in consumption. Thus not all production goods can be used, the further enlargement of production equipment is superfluous. Before the publication of Keynes' last book quite a different view was generally held. This was that the general downward tendency

[1] Or if it is not customary to invest them in shares of industrial enterprises.

was caused by too great an effective demand for consumers goods. On the previous assumptions investments did not increase consumption. Too great a consumption demand would limit the supply of producers goods. Thus the demand for producers goods could not be satisfied. It would be worth ascertaining on what assumption such an argument could be justified.

The economic break-down due to the too large demand for consumption goods is only possible in two cases: 1) the propensity of the society to consume gradually increases, 2) the supply of consumers goods decreases. Both these cases are very far removed from reality. The first is based on the theory of forced savings, the argument runs as follows — workers and officials must limit their consumption because prices of commodities rise due to the credit creation of banks. Later their incomes will rise and they will increase their consumption. Then it will appear that there are too few consumption goods on the market. However it is obvious to me that thanks to the credit creation, the purchasing power of the entrepreneurs increases and the price level of producers goods rises but it is difficult to understand why the price of consumers goods should rise. Thus there is no cause why, in the early boom, the employees should make forced savings (unless we assume that the supply of consumers goods is now diminished). There is no reason why in a later period the society's propensity to consume should increase. The second case, that is the fall in the supply of consummers goods, is still less probable. The acceptance of the assumption in section 4 is necessary. The supply of those commodities would only decrease when a part of production equipment was withdrawn from the higher stages of production. It is not only impossible, from the technical point of view, but, which is more important, it is impossible from the economic point of view. It is difficult to understand why the higher stages would have to be enlarged when the production of consumers goods was simultaneously decreasing. In such a situation social income only undergoes very small changes because the state of employment remains the same or very nearly the same. The society's propensity to consume will probably decrease. The small increase of the supply of consumers goods would be quite sufficient to satisfy

the demand[1]. It is still more probable that, after some time, at least some method of production more technically perfect will be used. So the supply of consumers goods may be rather too big than too small.

It is unlikely that such a surplus of consumers goods would alone cause a downward tendency. The changes on this market are much smaller and appear much later than the changes on the market for producers goods. The over production of consumers goods is not very important as it is not likely to occur. The most important factor is that the demand for consumers goods is not large enough to use up production goods quickly enough. The demand for production goods is too small. This causes credit difficulties and in many cases prevents the completion of investments already begun. In the light of these facts it would seem that the cause of the depression is the situation on the consumers goods market. It seems to me better to explain it by the structure of production in the capitalistic system. The demand for consumers goods can be increased in a greater or less degree and according to this the state of full employment will be more or less lasting. But the demand must increase progressively so as to maintain full employment in the higher stages of production. From the moment when unemployment is abolished further growth of social income at such a speed as previously is impossible.

7. The purpose of the above argument was to prove that the state of full employment is a very temporary phenomenon. This statement may appear to be questionable. A state approaching full employment lasted many years in the XIX-th. century, and this is probably why so few economists took into consideration involuntary unemployment. Those who did, put it down to technical progress. So it is necessary to show the relation between the argument described above and the actual appearance of phenomena. Up till now we have considered the system in which the state does not make any large investments. The demand for producers goods was small and less stable,

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[1] Hayek uses a concept of the period of time which is long enough to allow changes in the structure of production but too short to allow the production of consumers goods to increase. It is clear that there is a contradiction here.

which alone increases the instability of the state of equilibrium. In the XIX-th century the state did not make large investments and in spite of this equilibrium was much more stable[1].

From our point of view another fact is much more important, that is the speed of reaction of the system to changes in economic magnitudes. The smaller it is the more stable the whole economic system. In this article I have been analysing, not determining, the interval of time between the first change in our system and all secondary changes. This may suggest that in reality these phenomena follow one another closely. If, by the help of statistics one could define time intervals of different length, the system would appear much more stable. And so it is in reality. The representation of this fact would, howewer, not be without certain difficulties. To do this it would be necessary to use sufficiently precise concepts of the length of different economic periods. They would have to be much more definite than those used in the theory of economics[2].

In connection with the above arguments two more conditions[3] on which the degree of stability of the state of full employment depends can be established.

1) The degree of stability is greater the smaller the higher stages of production, because in these circumstances the demand for renovation of the existing equipment will be big enough to employ the higher stages of production. We can assume that the richer the country, the more developed and larger is its production pyramid. A rich country, has in consequence small possibilities of maintaining full employment.

2) The stabilization of full employment is greater when the development of prosperity is more uniform. Regularly and slowly increasing demand for consumers goods means the slow enlargment of equipment. Thus there is a greater likelihood that the production of consumption and production goods will be more parallel. The higher stages of production will not be enlarged too much.

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[1] I will return to this in section 11.

[2] See Robertson D. H., *Saving and Hoarding* (The Economic Journal 1933) and Lundberg E., *Studies in the Theory of Economic Expansion*, chapter I and II.

[3] See the above cited article of Kaldor.

In a rich country the propensity to consume decreases quickly when incomes increase, and the development of prosperity is quite big in the early stages of a boom. In the later stages the tempo of development decreases. In a poor country the contrary is the case, so it has more chances of stabilizing full employment.

In conclusion it may be said that a poor country has more chance of maintaining prosperity. However, at the moment when the situation on the commodity market becomes unfavourable, a rich country can do much more to maintain full employment longer period of time by artificial means.

III

8. To prolong the state of full employment over a period of time, there must exist a tendency for supply or demand to increase. It seems that changes in supply only are insufficient. There are here two possibilities: 1) technical or organizational change in the method of production, 2) a fall of the rate of discount.

The first factor in the conditions under consideration, will be insufficient. The consequence of any change of this sort will be a rise in the costs of production because the cost of investments is greater than cost of the current output with the old equipment. Thus, such a change can be made only when an increase in the demand for products is expected. When, in the state of full employment, the change in demand does not appear of its own accord it is unlikely that changes in technique will be made. They can only be of a secondary character, and will appear when, because of the increased demand for commodities, they will become profitable,

The decrease in the rate of discount, that is the improvement of the conditions for obtaining credit is, in these circumstances, very unlikely. When the uncertainty increases inspite of the increament in the bank deposits the cost of obtaining credit will rise.

9. There also exist other possiblilities of enlarging production, 1) a rise in the society's propensity to consume, 2) a change in the direction of demand for commodities.

The rise in the society's propensity to consume is not a necessary phenomenon, it is, however, possible. If the society had time to get accustomed to higher incomes it is possible, if not probable, that the rate of savings will decrease. The demand for consumers goods may increase and after some time new investments will become necessary. This will at first result in liquidation of the stocks of producers goods. If these stocks were voluntary they would be renewed.

When the society's propensity to consume is increased the prices of some consumers goods rise but not uniformly, some rise more, some less and some do not rise at all. Due to the increased demand for consumers goods the stocks will be liquidated, but production cannot be increased without previous investment. This in turn means a liquidation of stocks of producers goods and a rise in wages, or the employment of workers till now unemployed, if in these conditions there are any. (See section one). Both mean increament in purchases, so the revival will be maintained both in the higher stages of production and in the industries of consumers goods. Obviously the enlargement of some branches of production may be accompanied by the fall in the profitability of others. I cannot here go into a more detailed analysis specially as there are many indeterminate elements.

What is important is that in this way full employment can be mantained, but it will only last a short time. Very soon the danger of unemployment will arise in the higher stages of production though the revival will still last in the consumers goods industries.

The possibilities of stabilizing prosperity depend to a large extent on the moment when the increase in the demand for commodities appears. If it appears after a long period of time the production of the higher stages will be previously limited and unemployment will exist. It is doubtful whether a downward tendency could then be stopped.

On the other hand the increament of the propensity to consume may arise while a revival still exists in the higher stages of production. The prices of producers goods will have reached their highest level and the making of investments will involve high costs. Then it can be more profitable to use the

machines more intensively and lengthen the working day by the payment of higher wages, production will continue at increasing costs but this will involve a smaller expenditure than the purchase of investment goods. In such conditions the state of full employment is more lasting than in other circumstances. At the same time when there is a revival in the consumption goods industries the firms manufacturing investment goods are inactive. Nothing counteracts the immediate appearance of the downward tendency.

The result is simple, the state of full employment is only comparatively stable when the propensity to consume increases and there is a slight downward tendency in the prices of producers goods. Then it will be probable that many enterpeneurs will invest.

10. When the general propensity to consume increases the situation improves more or less in all branches of production. The case is different when there is a change only in the direction of consumption. Then because of the keener competition, a part of enterprises functioning till now are economically destroyed. It is a case of a change of fashion on a large scale (for instance, through a great advertising campaigne the public is persuaded to buy wireless sets in great quantities).

This is comparatively much more probable when the system has nearly reached the state of full employment. The cause of this is that the propaganda for the change in fashion is in the interest of the producers of consumers goods. When full employment exists the demand for consumers goods is the greatest. The propaganda for consuming has no "raison d'ètre".

When full employment has not yet been reached the tempo of development in consumers goods industries is much smaller than in the investment goods industries. This will be specially marked if, simultaneously, which is possible, the propensity to consume diminishes. It can be counteracted by great propaganda in advertising new consumption goods till now not very popular.

If such action is effective the production of these goods will increase remarkably. Sooner or later investments will have to be made. They will be especially large in the case of the

production of quite new commodities, then it will be necessary for some new production goods to be manufactured.

At the same time some of the existing enterprises begin to suffer losses, if these losses are spread over a small number of enterprises, a local unemployment may arise. If they are spread over many branches of industry and commerce it is possible that the downward tendency will not appear. Production and the state of employment will remain unchanged, only profit will decrease. In these circumstances the stabilization of full employment will last longer, it is, however, impossible to determine how long.

Both the means of maintaining prosperity considered, give very limited and temporary results. But it is quite likely that these effects will be repeated a number of times in succession. Thus full employment might be stabilized, but this is not certain. It is impossible to prove the stability of the system basing the proof on the appearance of certain stimuli which do not come into the field of economics. There is no certainty that they will appear, as they do not result from the mechanism of economic life. It is still probable that these stimuli would appear at the proper moment of time, that is when the general downward tendency had not yet appeared and while on the other hand the prices of producers goods had fallen so much that it payed to invest. If the stimuli appear at any other moment there would probably be no result.

IV

11. The above described tendencies show less in reality. The reasons for this are various. The most important is public investments. Because of these there always exists a great demand for producers goods and the probability of unemployment arising in the higher stages is much smaller.

Public investments may take the following forms:

1) The state can start a great reconstruction of the the economic system of the country, building up new railway lines, digging canals, taking action for the reorganization of the market (for instance the building of graneries, abatoires etc.) all this means a great demand for producers goods.

2) Great public works (even if they are only a part of the trade cycle policy) are also connected with the great demand for investment goods. It seems, however, that in this case the purchases of producers goods will be much smaller because the input of labour is comparatively large and the tools used are few and very primitive.

3) Great armaments. In this case the demand for producers goods is specially great. Germany shows us that it is not difficult to maintain full employment in such a situation, rather the contrary, the production equipment appears to be too small to satisfy the increasing needs of the country. It is more likely that the production is for future than of present needs.

Certain doubts could arise as to whether, in such conditions, the disappearance of some branches of consumers goods industries would not coexist with the increase of the producers goods industries. Then partial unemployment would arise and it would be difficult to absorb it at once. It seems, however, that the disproportion is much smaller than one would imagine. The armaments include not only the production of guns and aeroplanes. Equally necessary are great stocks of consumers goods (Wool and cotton materials, boots, tined food etc.). Undoubtedly some branches of production will become less profitable (for instance the fancy goods industry). Thus certain difficulties may arise. In any case the cause of the break-down will be most likely too great and not too small a demand for commodities.

It is not very probable that the same effects could be attained only by the intervention of the state (for instance the reduction in taxes and in tariffs for the producers of consumers goods and the reduction of difficulties for the manufacturers of producers goods). Certain stabilizing effects could be obtained in this way but only after a long time, that is through the gradual reduction of higher stages of production in comparison to the lower. But there will always be another problem left unsolved. Of what use can producers goods be in producers goods industry (that is producers goods of the highest degree)? Their production will only be profitable when more round about ways of production will be gradually lenghtened, which is only likely in the time of the development of a boom.

Stabilization of full employment in the higher stages is

possible in one more case. If the country is exporting a large amount of producers goods. The amount of export ought to develop gradually (or the amount of import of those goods decrease gradually). In any other case the production equipment would be enlarged too much and the situation would not differ from the one described above. The stabilization of full employment was the effect of the great expansion to more and more markets.

12. Now it becomes clear why at the beginning I accepted the two simplified assumptions, that is I excluded the effect of public investments [1] and limited the subject matter of the analysis to the closed system. Such isolation is obviously justified and needs no explanation, but the elimination of public investments may seem questionable.

The purpose of economic theory is to analyse the mechanism of the economic processes and represent them in the clearest possible form. So it is necessary to eliminate all changes of an institutional character. The state can follow a policy of greater or smaller interventionism. This varies at different times and in different countries. If we take into consideration all transitory and changing peculiarities we cannot come to a general theory of a given phenomenon, it is necessary to exclude them at least temporarily.

I think that this is the proper method in our case. The result obtained will be remote from reality but it is not difficult to diminish abstraction and accept more particular assumptions. Thanks to the previous simplifications it is easy now to divide transitory phenomena from more permanent properties of the economic system. If the institutional peculiarities change it would be easy to accept other assumptions related to the field of the state activity, the tempo of technical development etc.

This problem does not really differ from the problem considered by the late professor Zawadzki in his last article [2]. It was there represented in such a comprehensive way that any

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[1] And the intervention of the state on a large scale.

[2] See W. Zawadzki's *Two Concepts of Economic Equilibrium*, Ekonomista 1938, nr III.

further considerations of it here would be superfluous. A characteristic example of this method of theoretical analysis is the very well known concept of equilibrium in the time of depression while unemployment exists. Such a state of equilibrium exists only because the state opposes the downward tendency of wages [1] if the state did not oppose the demand for commodities would decrease which would diminish the volume of production. The cumulative downward tendency would develop further. In other words such equilibrium only exists with a given type of state policy. If the state, in its economic activity were applying principles of liberalism the result would be quite different. Not to emphasize this fact would be to give an incorrect representation of the real tendencies of economic magnitudes. The proper consequence of such an approach to the theoretical problems would be institutional inquiry. Then many simplified assumptions would be superfluous. It cannot be denied that studies of this kind are very useful but it is not likely that the mechanism of economic processes could be analysed.

Full employment of labour in capitalistic economy is a very transitory state. The stabilization can only be maintained in the long run through the economic activity of the state. The purpose of this article has been to show the possibilities of maintaining the state of full employment in this economic system without economic activity on the part of the state. I do not think it could be clearly represented when the states investing activity is, from the begining, one of the datas of the analysis.

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[1] In these conditions there are among the unemployed many qualified men who are fit to be immediately employed. So the supply of labour exceeds the demand for it and in ordinary circumstances the level of wages will fall. What I have written on Keynes' concept of equilibrium is only apparently contrary to the remarks in section one, then I was considering unqualified men whos excessive supply of labour cannot lower the level of wages payed to men then employed.

Streszczenie

Antoni Tom: Stabilizacja pełnego zatrudnienia

I. Celem artykułu jest wykazanie przyczyn niestałości stanu pełnego zatrudnienia i zbadanie dróg, prowadzących do jego stabilizacji. Rozumowanie opiera się na dwu upraszczających założeniach. Przebieg zjawisk badany jest w: 1) układzie izolowanym, oraz 2) przy braku państwowej działalności interwencyjnej. — W dalszym ciągu te założenia zostają porzucone.

Stan pełnego zatrudnienia rozumiano jako całkowitą nieelastyczność podaży. Jest to o tyle nie ścisłe, że: 1) bardzo często uda się powiększyć produkcję, podnosząc wynagrodzenie poszczególnych czynników produkcji, 2) istnieje rezerwa w postaci dobrowolnie przechowywanych zapasów dóbr wytwórczych, których można użyć w procesie produkcyjnym.

II. Zasadniczą przyczynę załamania stanowi brak popytu na dobra wytwórcze, co powoduje powstanie bezrobocia na „wyższych stadiach" produkcji. Brak popytu na dobra wytwórcze wynika stąd, że — przy stabilizacji stanu zatrudnienia — nie powiększa się popyt na dobra konsumcyjne, a zatem nowe inwestycje są zbędne. Prawie nigdy potrzeby renowacyjne nie są na tyle duże, aby spowodować zatrudnienie całego aparatu wytwórczego na wyższych stadiach produkcji. Wobec tego prędzej czy później powstaje bezrobocie w przemysłach, produkujących dobra wytwórcze, co — przy braku interwencji z zewnątrz — powoduje kumulacyjny proces zniżkowy. — T. zw. szkoła austriacka doszła do innych wniosków wskutek przyjęcia paru założeń całkowicie nierealnych.

Trudności pieniężno-kredytowe nie są niezależną przyczyną załamania. Stanowią one raczej konsekwencję braku dalszego wzrostu popytu na towary, ponieważ banki dopiero wówczas zaczynają ograniczać rozmiary udzielonych pożyczek. Natomiast rozmiary depozytów bankowych mają mały wpływ na udzielanie pożyczek przez banki. Ich rola ujawnia się tylko o tyle, o ile finansowanie działalności przedsiębiorczej odbywa się za pomocą emisji akcji. W każdym razie znaczenie oszczędności pieniężnych jest znacznie mniejsze niż to sądzili „klasycy".

Nadmierny popyt na dobra konsumcyjne może spowodo-

wać trudności tylko w szczególnych warunkach. Dlatego mało jest prawdopodobne, aby miał wywołać powstanie ogólnej tendencji zniżkowej.

Stan pełnego zatrudnienia jest tym bardziej trwały, im: 1) mniej rozbudowane są wyższe stadia produkcji, 2) bardziej równomiernie i powoli odbywa się „wzrost koniunkturalny".

III. Stabilizacji pełnego zatrudnienia nie spowoduje ani zmiana techniki produkcji, ani poprawa warunków kredytowych. Wystąpienie któregokolwiek z tych czynników jest w tych warunkach nieprawdopodobne.

Natomiast istnieją inne możliwości: 1) wzrost społecznej skłonności do konsumcji, 2) zmiana kierunku popytu na towary. — W artykule przedstawione jest, jaki będzie dalszy bieg wypadków, wywołany przez każde z tych zjawisk. Okazuje się, że żadne z nich nie może dokonać stabilizacji na dłuższy przeciąg czasu. Działanie ich odnosi skutki tylko przejściowe.

IV. W warunkach rzeczywistych wielką rolę odgrywa inwestycyjna działalność państwa oraz fakt, że żaden kraj nie jest układem izolowanym. Przez to naszkicowane tu tendencje przebiegają w formie znacznie złagodzonej.

Wchodzą w rachubę następujące możliwości: 1) przebudowa gospodarcza struktury kraju, 2) wielkie roboty publiczne, 3) zbrojenia, 4) stopniowy wzrost eksportu dóbr wytwórczych.

Staje się teraz zrozumiałe przyjęcie na wstępie założeń upraszczających. Gdyby ich nie zrobić, nie byłoby jasne, czy stabilizacja pełnego zatrudnienia jest skutkiem samorzutnie powstającej tendencji ekonomicznej, czy też wynika z interwencji czynników, znajdujących się z zewnątrz układu gospodarczego. W danym wypadku chodzi o działalność państwa, która zmienia kierunek tendencji ekonomicznej.

Polityka państwa może być liberalna lub interwencyjna, zmienia się to z okresu na okres. Jeśli od tego nie abstrahować, nie uda się oddzielić zjawisk przejściowych od trwalszych właściwości systemu gospodarczego.

ABSTRACTS FROM CONTRIBUTIONS TO ECONOMICS PUBLISHED IN POLISH IN THE PERIOD 1936—1937

Prof. Edward Taylor, *Wstęp do ekonomiki, część pierwsza. Poznańskie Prace Ekonomiczne, nr 23. (Introduction to Economics. Part I), Poznań 1936, pp. 190.*

The object of this book is to synthesize the results of progress in economics during the last few decades, and to deepen and reconstruct in their light the foundations of economic theory, based on an analysis of the historical development of the problems in question.

The author rejects the definition of economics as a science of exchange, values, prices, social economy, economic activities and prosperity, and thinks that Adam Smith's definition of economics as the science of social income, best describes the subject of its investigations, if by income is understood a sum of material means to satisfy needs. Economics is a social science because of the important part it plays in the existence of nations, and because of the indispensable element of human relationship in gaining social income. On the other hand, the limitation of investigation, to material goods, of which social income consists, produces the real substance of economic phenomena. With immaterial goods, economy is not possible in completeness (postponement for the future), and this is why the character of the phenomena bound up with them has a purely psychical difference, making it a subject for other sciences.

The author opposes the division of economics into theoretical and political. The latter can claim no foundation as a separate science, as the objective economic aim cannot be ascertained from the social point of view. If we consider political

economy as a state activity it becomes a part of the science of state administration, which was originally the case (Skarbek 1820, Rau 1826). It is more suitable to divide economics into general economics and particular economics, of which the first treats of the general rules, while the second analyses the forms of economic phenomena and problems appearing under the conditions of contemporary economy in the time and place referred to. This division is not identical with the division of economics into theoretical and descriptive, which is neither correct nor appropriate.

The author next considers the nomothetic or nomological character of economics as a science. The cause of disputes over this problem was its unfortunate formulation by the classic writers, particularly by J. S. Mill. The classics, included the definition of the subject of economics (material goods) as well as the basis for the system of human economic activities (the principle of economics) in one construction „homo oeconomicus", to whom they attributed an endeavour to obtain the maximum material gains with the minimum expense or sacrifice. They did not perceive that in this way they attributed to this "homo oeconomicus" special motives for action characterized by materialism, egoism, etc. This theory of "economic motives" was inconsistent with the psychology of a normal human being. A reaction to this assumption was bound to come. It found an expression in the historical school. It's criticism operated on the constant assumption that the investigation of the system of economic life can be based on the theory of economic motives; the conclusion was reached that either economics as a theoretical science, the nomothetic, is impossible in general or that a theory can be constructed only for separate epochs of economic development (the older and younger historical school). A basis was sought for economic laws in the aims of social life (historical sociology of S. Grabski, teleologism of O. Spann) or in the reactions of certain conceptions of "ideal types" (M. Weber, T. Brzeski). However, the theory of economic motives is completely superfluous as a basis for the construction of economics of a nomothetic character. Economics is separated from other sciences by its subject — social income, understood as a sum of ma-

terial means for satisfying needs and studied from the point of view of this function. The nomothetic character of economics, on the other hand, is a result of the economic principle which characterizes every practical human activity and can be understood only formally and subjectively. Human aims may be very numerous, material and immaterial, egoistic and altruistic, they are always, however, subjective and dependent in their formation on the cultural, legal and moral conditions of a given time and place. From this point of view the accusation made by American institutionalism that economics is of a normative character is unjust, because it charges the science with the treatment of economic activities as exclusively reflective and rational. The formal and subjective economic principle applies equally well to the instinctive activities, non-reflective and objectively irrational. Each practical human activity is in its choice of aims and means subjectively appropriate and also rational. Any other proceeding is hardly to be imagined.

The author does not agree with historical ethics, social Catholicism or the teleology of Spann, in their conception of economics as a normative science and seeks the source of these views in the thesis of the unity and inseparability of social phenomenon already put forward by St. Thomas Aquinas. He defends the basing of economic investigation on individualism on the ground that the action of the individual reflects the influence of society as a whole. Here he distinguishes also this recognisable individualism from the "Weltanschauung" — individualism, stating that they are not necessarily related. This brings him to a discussion of the problem of economic liberty as an assumption of methodological economics. Instead of the ancient opposition of free competition to monopoly, he opposes economic liberty to planned economics as two economic assumptions differing in principle, and together making up the whole economic system. System in economy can only exist where economic principle can freely appear, i. e. only during the existence of economic liberty. The formulation, therefore, of these principles in general laws, formerly called natural laws, may apply only to the conditions in which this liberty exists. In application to the activities in which eco-

nomic liberty is limited, its limitations are taken into account by economics in the form of modification of general laws and explanation of their deviation from reality. In the liberal state all individuals have the liberty of dividing means between their wants according to their tastes. In the strictly planned and compulsory economy only the directors of the economy have this liberty, or in other wards there is no general economic system. In the complete lack of economic liberty, however, it still remains in a vestigial state in the form of individual needs.

Economic laws like any other scientific laws, have a conditional character. The more general are the assumptions, the more general is the extent of the validity. Considering the change of economic conditions, economic laws are, on the whole, more relative than natural laws. Often, for the sake of clearness laws are formed, leaving out the more general or less important assumptions. Sometimes they are also formed with a view to contemporary conditions; with certain changes these laws may be applied also to conditions in other periods.

At present there is little discussion about induction and deduction because they appear to be complements one of the other. Induction in economics is especially difficult to apply because of the impossibility of carrying through experiments. Historical material is always one-sided and incomplete. Due to the confusing influences of numerous causes and accidental phenomena, statistics must be carefully corrected before they can serve as a foundation for generalization; they cannot replace theory. The application of mathematical methods of reasoning is permissible in economics, but not necessary, and can give only limited results. The interdependence of economic phenomena does not necessarily entail the application of methods based on the mathematical functions. Where interdependence is weaker, it need not be taken into account and causative reasoning, may be applied. The division of sciences into natural and social depends on a similar isolation. During the investigation of economic phenomena two sorts of magnitudes must be distinguished. The first comprises the economic factors or data which represent what is changeable and inde-

pendent in the economic system. They are really outside the province of economics, each of them has its own movement, and therefore one cannot speak of the dynamic balance of the economic system. These externals are: 1) the number of people, i. e. the quantity of their work and needs: 2) the quality of people, i. e. the scale of their needs, 3) character, morality and culture: 4) the level of technique and science; 5) the level of social economic organization, 6) nature with its riches. The internal factor belonging to the same group is capital, which represents the preceding economic system, and serves as the starting point for the present system. It is an economic dynamic magnitude. The second group of magnitudes in this system represents economic elements, i. e. goods and prices as well as generalizing ideas, such as income, possessions, etc. They are changeable and dependent on an economic system and are fully subject to the economic investigation. The subject of economic investigation is the change in the elements of the economic system under the influence of changes of the economic factors. The starting point of an investigation is an idea of a static equilibrium of elements. The conception of the general static equilibrium could be used for the investigation of the mutual relationship of the elements of the system, but as it does not take into consideration the influence of time, it cannot explain in what way this balance arises. Neither can the concept of general static equilibrium include the variety of related changes in the elements of the system, as it neglects in its investigations the relationship between the factors and the economic elements. The author favours the method of investigation of partial equilibria of elements (Cournot, Jevons), as he considers that it is a mathematical form of the literary method of isolation of the classical writers. According to the author, the combination of the two methods gives the best results, because it allows for the introduction of dynamics into economic phenomena.

Next the author deals with the static and dynamic methods originated by John Stuart Mill, and developed by J. B. Clark and J. Schumpeter. They represent a literal transposition of a mathematical method of general equilibrium. The author calls attention to the variety of interpretations of statics by

different authors, which causes the confusion of ideas regarding the proposals based on these various interpretations. The author distinguishes between two main conceptions of statics: 1) stationary statics, based on the assumption of the stability of all economic factors (capital included), that corresponds to the real stationary state as time goes on, 2) adaptive statics, based on the assumption of the stability of the external economic factors; it does not assume the amount of capital being given and treats the creation of capital in a purly abstract way. The author favours the second of these conceptions, asserting that the first is not suitable for the investigation of economic phenomena, depending on the changes of economic elements, as it assumes the amount of capital being constant. The first danger of the static and dynamic methods lies in the fiction of a stationary state, and its supposed movements. The danger of the static and dynamic methods lies in the separation of the static from dynamic movements of economic elements, whereas in reality all these movements are of the same nature, being adjustments to the changes in economic factors. There is no controversy between the static and dynamic methods. The latter must be based on the results of the former. The dynamic method includes the static method, and supplements it by the considerations which take into account the moment of time and the changes of the economic elements originated in the simultaneous changes of the economic factors.

The second volume of the above work will comprise a discussion of the factors and elements of economics, and thus of the conditions and basic ideas of economic life.

Prof. Stefan L. Zaleski: *Wpływ postępu technicznego na bezrobocie (The Influence of Technical Progress on Unemployment). Poznań 1937, pp. 218.*

The question of technical progress and its influence on unemployment is one of the most important problems of the modern epoch. Is there really a kind of tragic antinomy between the more effective methods of production and the state

of employment and welfare of the working masses so painfully affected in recent years by lack of work? Is unemployment on the contrary only an ephemeral phenomenon emerging from time to time as a direct result of technical progress, of which, however, the permanent effects are always favourable for all classes of society, raising the standard of living and civilization? The future of human societies and the trend of their economic and social policy depends in a large measure on the answers to these questions. At this point arise numerous problems: the problem of social-economic organisation, so often attacked now by the argument of unemployment and the prodigality of machine production; the problem of the efficiency of work, which should, it is said, by limited in the interest of workmen, and even of the public; the problem of time and other important questions.

A superficial observation of the social and economic effects of technical progress may often lead to pessimism. Too hasty a judgement should be avoided, for it is necessary to examine our problem methodically and thoroughly "ce qu'on voit et ce qu'on ne voit pas" must be considered.

Our problem may be formulated in theoretical economic terms as follows: capital and labour are complementary factors, and their co-operation in production is indispensable. On the other hand, capital and labour, under certain conditions, are mutually exchangeable and competitive. This possibility of substitution on one hand and complement on the other creates a common relationship between both factors of production, a relationship of a singular and unusually complicated character. The more they resemble each other in their functions the larger the technical possibilities of their mutual substitution, the wider the field of their competition.

The mutual substitution of capital and labour increases as time goes on. The division of labour and the consequent simplification of the work executed by workmen, which is approximate to "mechanical" operations, facilitates the taking over of this work by machinery. At the same time technical development allows the production of machines, able to do complicated work which could formerly only be done by men; thus the

machine, continually improved and almost able to think, replaces the workman.

Technical progress, as well as the development of organization and the division of labour, changes conditions in such a way that it makes the direct substitution of labour by capital profitable. The economic moments — the prices of these factors — seem recently to have acted along the same lines. In the long run, however, the forces which lead to the co-operation of the factors of production have, under normal conditions, an advantage over the reverse tendencies, competition and substitution.

To prove this is the object of this study. The question of substitution depends as much on the technical factors, i. e. the comparative productivity of both factors concerned, as on their prices, i. e. interest on capital and wages. From the economic point of view rationalization, a branch of technical development, depends on the diminution of the costs of production. It renders superfluous a part of labour and capital formerly indispensable. In this way, thanks to rationalization, these productive factors in a certain branch are condemned to „unemployment", or must be taken into use elsewhere. From this arises a very complicated problem in our economic structure, which is based on the division of labour and unequal distribution of private property and is closely connected with rationalization.

For the entrepreneur wages are a part of the cost of production, for the labourer they are income, in most cases the only income and means of livelihood. The diminution of the costs of production may cause the entrepreneur-capitalist to dislocate purchasing power and so produce unemployment of labour. This creates a social problem which is solved when the workman replaced by the machine, finds work elsewhere. The problem is also solved if the increament of the product of labour — the consequence of technical development — is more then sufficient to cover the maintenance of the "technical unemployment". This maintenance of unemployment forms the social cost of technical development.

II

In an economic structure based on private property, free competition and the rationalistic principle, technical development progresses most favourably. On the whole technical invention is desirable if its application is profitable. This is a sign that it corresponds to the real needs, the satisfaction of which outweighs the cost. Utility is greater than disutility.

According to the different ends which people wish to achieve the valuation of the technical development changes as well as the conception of the outlay of costs.

Two moments should be distinguished in technical development, the first is the development of inventions only, productive ideas for practical purposes; the second is the actual application and propagation of technical possibilities, depending on the degree of initiative, the spirit of enterprise and many other economic and social conditions. Technical development is not something homogeneous and there is no simple and uniform measurement for it. It is important to distinguish between the four different kinds of technical development two of which are the foundation of our deliberations. The first is the progress of efficiency, which may also be called thrift, or rational progress. It consists in the diminution of the cost of production of goods already known, and thus the achievement of an improved relation between the outlay and the result. The second is the progress of novelty or creation, it consists in inventions which enable the production of new goods, permitting the satisfaction of unknown needs. Excellent examples may be given here, such as wireless, the telephone, the cinema, photography, and also, even if they are less new and only partly replace the former goods — the railway, the bicycle and the motor car. The third branch of technical progress is shown in the improvement of quality in goods already known. The fourth, type of progress, which is indirect, is the progress of substitutes, facilitating the breaking down of monopolies and the fulfilment of the tendency towards national economic self-sufficiency.

The progress of efficiency and the progress of novelty are particularly important in our problem. The first may cause unemployment as a direct consequence of diminution

of work and so costs of production. The second, quite the contrary, opens now fields for human activity and creates new occupations for the employees dismissed by the progress of efficiency.

In examining the causes of the first, one should take into consideration the different degrees of elasticity of demand for the goods produced by the improved methods. The progress of novelty, on the contrary, is bound up with the rule of multiplication and differentiation of needs. The progress of efficiency saves power and productive means, and creates the economic conditions needed for the realization of the progress of novelty and quality. On the other hand these two sorts of technical progress facilitate the absorption of the employees dismissed owing to the progress of thrift.

Numerous statistical data at the end of this chapter (II) indicate what advances have been made in efficiency in different branches of industry and what the effects were on employment. From these figures one may draw a general suggestion of the unusually rapid technical progress made after the Great War in some countries, especially in U. S. A. and Germany. In the United States there is also a striking shifting of labour from material production, in the strict sense, to the production of services such as transport, commerce and personal services.

III

After having critisized the points of view of various economists: Sismondi, Ricardo, Marx, Say, Mac Cullah, Senior, J. S. Mill, Böhm-Bawerk, Lederer, and others, the author gives in the last chapter a general synthesis (VIII pp. 170—210). Primarily he considers the reasoning of the first group of economists who approach the theory of technical unemployment from the point of view of demand for goods. Using the concept of the elasticity of demand and its dependence on prices, he proves that when technical improvements take place, normally there arises an increase in the demand for goods and so in the demand for labour either in the branch of production where the improvements are made or in the other branches. This gives the impression of being the rule of the

maintenance of purchasing power. Purchasing power passes from one person to another, from labourers to entrepreneurs, due to the diminished amount of wages, from entrepreneurs to consumers, due to the reduction of the price of goods.

The author draws attention to certain difficulties in the adjustment of demand and supply of products during quick changes of economic quantities. These difficulties are chiefly the results of the differences in the elasticity of the demand for goods and of the differences in the degree and speed of reaction of the enterpreneur to change in prices and profitability. Consequently there may exist certain disproportions and a temporary lack of balance in the demand and supply of labour in the transitory period.

Passing on to the capital theory of technical unemployment, according to which unemployment is caused by the lack of turnover capital (changeable capital) which has been transformed into machinery — the author first stresses that the principal defect of this theory is the application of the static method to a problem par excellence dynamic. Referring among others to H. Bergson, he points out that in general our deductive rationalistic methods facilitate the representation and proof of stagnation and immobility. On the contrary, it is difficult to demonstrate the possibility or necessity of movement and continuation, life and development. Besides this, certain assumptions accepted as a foundation for reasoning by the followers of this theory of unemployment very often unduly simplify the problem and contradict reality, which is always continuous and intricate, with one process overlapping another.

The modern theory of technical unemployment based on the argument of capital is founded on four allied assumptions, which the author subjects to investigation and criticism: a) the amount of capital available is strictly limited and unchangeable; b) the application of a certain technique and of a certain amout of capital is necessary for every labourer; i. e. the quantity of capital and labour is strictly fixed by the technique; c) technical progress is normally expressed by the demand for a larger and larger amount of capital for the technical plant; d) the production of improved machinery and

other capital goods does not represent consumption for the dismissed workmen.

The author does not deny that technical progress, if its application requires additional capital, may cause temporary unemployment, but argues at the same time that this progress creates indispensable conditions for the reabsorbtion of the dismissed workmen. He points out also the circumstances under which this absorbtion is easy and quick. As a basic condition for drawing the workmen dismissed by the progress of efficiency into the economic circle, the author considers the elasticity of wages and other economic elements (prices, interest, productivity etc.). This elasticity alone can ensure the normal functioning of the economic mechanism and the achievement of the balance of the demand and supply of labour. The author opposes the views of certain economists, e. g. Lederer, according to whom technical progress continually presses on wages and brings down their level. This phenomenon may certainly appear temporarily, but in the long run technical progress increases the social income and consequently causes the increase of real wages. The statistics for wages over the last few decades distinctly confirm this thesis.

These considerations lead to the conclusion that employees dismissed owing to the progress of efficiency are normally re-absorbed by the process of production under an economic system based on freedom and private property. Technical improvements disturb the balance of the economic system, but the free operation of natural economic forces corrects this after a certain time.

In practice one should reckon on certain circumstances depending in a great measure on our non-economic activities such as social, political, psychological and even moral. All these factors finally express themselves in the quantities of goods offered and required and in prices as well as in the factors of production and their products. For these reasons they come into the field of economics. For a full explanation of social-economic reality, and appropriate policy one must not limit oneself to the analysis of same elements but go to the depth, consider the existing conditions forming life in it's complicated entirety. Dynamic economics, approaching nearer to life than

static, must take into account at least three principal features, movement, continuity and totality. The economist who "dynamizes" his investigations, ceases to be merely an economist. Coming down from the upper regions of pure theory, trying to form the investigated system of economic elements into a concrete whole of factors and conditions, he must be in touch with his entire environment. This connection with his environment must temporarily be broken by the indispensable abstraction, but he must show the dependence of his own sphere on other spheres of life as a whole. In this way he demonstrates the responsibility of those who create conditions which frequently affect the whole social economy, and point the way to the prosperous solution of the great drama of technical progress and unemployment.

Doc. Dr. Aleksy Wakar: *Zagadnienie ceny zmiennej. Prace Zakładu Ekonomii Politycznej Szkoły Głównej Handlowej w Warszawie, zeszyt I. (The Problem of Variable Price), Warszawa 1936, pp. 160.*

The price depending on the size of the transaction the author calls the variable price; whereas the price which does not depend on the size of the transaction is called by him the constant price. A good example of a variable price is the block tariff for electric current. In the figure 1 the constant and the variable prices may be represented as price-lines. The price-line represents all possible combinations (of the different quantities of the commodity and different sums of money) that an individual can make when he has a given sum of money at his disposal and the market price is given. The upward curving price-line indicates that the price per unit of the commodity is falling as the

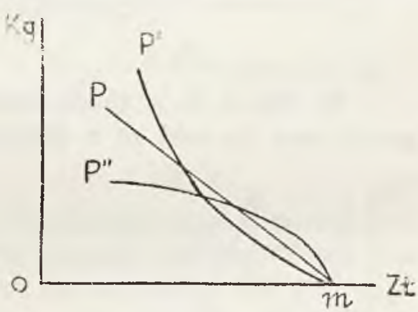


Fig 1

Fixed price . . . . . . *Pm*
Variable, diminishing . . *P'm*
Variable, increasing . . *P''m*

individual is buying bigger amounts of the commodity; the downard curving price-line shows the reverse.

Turning the price-line (*Pm* or *P'm*) round the point *m*, we mark out the curve of exchange (*Wm*) on the diagram of indifference-curves. The curve of exhange shows different amounts of the commodity that would be acquired by the individual in question at various prices. The curve of exchange passes through the points of tangency of the price-line with the separate indifference curves (tt), see figure 2. It is not difficult to perceive that the curve of exchange (*W'm*), corresponding to a diminishing price, lies outside, while the curve of exchange (*W''m*) corresponding to the increasing price — inside the curve of exchange (*Wm*), marked by the fixed price (Fig. 3).

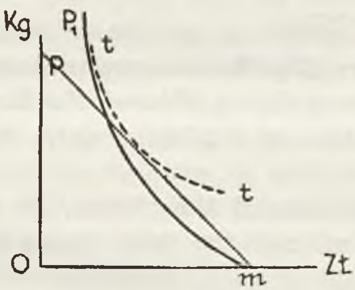


Fig 2

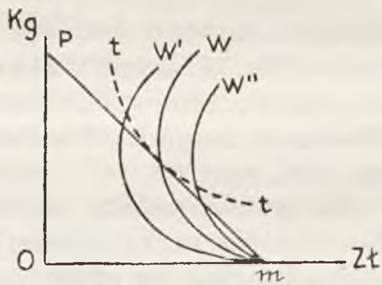


Fig. 3

In Fig. 4 it is made clear that the same quantity of goods may be sold at a diminishing price for a higher price on average, whereas at an increasing price — for a lower price, on average, than in the case of a fixed price ($\mathrm{ctg} \sphericalangle Rm0 > \mathrm{ctg} \sphericalangle Pm0 > \mathrm{ctg} \sphericalangle Qm0$); or when the same average price is kept up, the introduction of the diminishing price causes an increase of transactions in comparison with the size of transactions corresponding to the fixed price ($A'0 > A0 > A''0$).

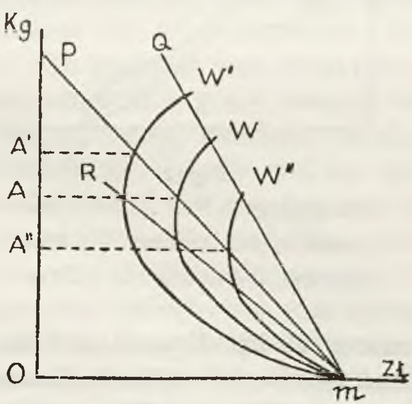


Fig 4

The fact that the application of the diminishing price makes it possible to reach a higher price on an average, or the increase of the transaction while the invariable average price is preserved, is of great importance for free competitive as well as for monopolist enterprises.

1. The transaction cost; the indifference curves of the entrepreneur. The cost of each transaction is composed of the proportional, unproportional, and constant costs. The author includes in the proportional costs of the transaction the prime cost (the purchase cost of the goods sold); in the unproportional costs — cost of attendance on the client, packing of goods, etc.; in the constant costs — office staff, premises, etc., in connection with one transaction. The proportional and unproportional costs are called by the author the variable transaction costs.

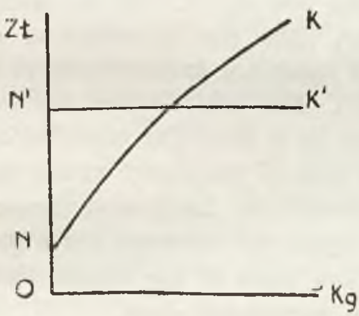


Fig 5

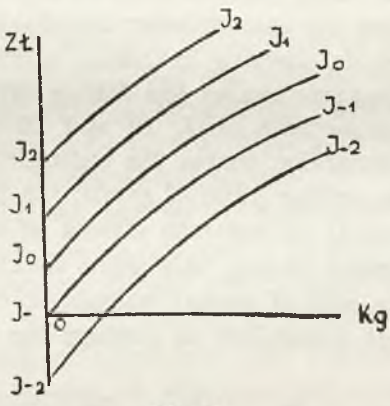


Fig. 6

In Fig. 5 the curve of the transaction costs is represented (*KNO* — in the case when the variable costs outweigh the constant costs and *K'N'O'* — if the enterprise has no variable cost).

Fig. 6 shows a system of the indifference-curves of the entrepreneur. In this figure the curve I_0I_0 is fixed by the curve of the transaction-cost (the profit equals zero); to the $I_1I_1, I_2I_2, \ldots$ correspond the profits of I_1I_0 and I_2I_0, whereas to the curves $I_{-1}I_{-1}, I_{-2}I_{-2} \ldots$ correspond the losses of $I_{-1}I_0$ as well as $I_{-2}I_0$.

2. Variable Price in free-competitive enterprise. In free-competitive enterprise the principle of the equalization

of the average price with the prime cost of the enterprise is obligatory. In this case it is the function of the transaction cost which decides the structure of the variable price.

If in the enterprise the variable costs preponderate (the selling of goods), there is usually a system of discounts; on the contrary when constant costs are much bigger than variable costs (the selling of certain sorts of services), the introduction of a system of fixed payments may turn out to be more suitable.

a. Discounts. The application of the system of discounts requires of the entrepreneur a certain introductory calculation. namely, he should divide the transactions according to their size into comparatively few classes (for instance, the first class includes transactions bigger than zero and not exceeding 10 kgs. the second class — transactions over 10 kgs. and under 20 kgs., the third class — over 20 kgs. and under 30, etc.). For each class the entrepreneur calculates the average size of the transaction, keeping in mind, however, that the introduction of discounts causes the falling off of marginal transactions (i. e. transactions at 9, 19 and 29 kgs.). The cost of the average transaction serves the entrepreneur as a basis for establishing the selling price of goods, (or the rate of discount) within the bounds of separate classes of transactions. As it was demonstrated above, this price should equal the average costs (for the unit of goods), calculated on the basis of the transaction-cost recognized as average for the particular class.

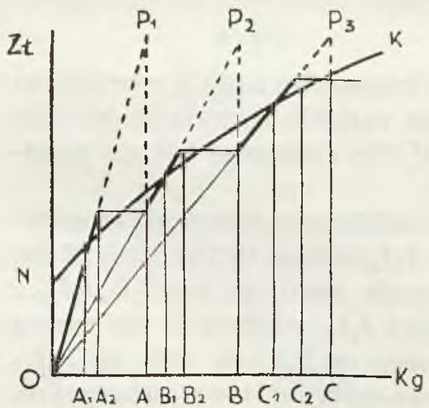


Fig. 7

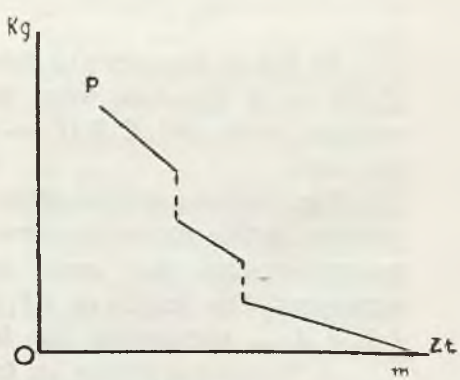


Fig. 8

	I	II	III
Transactions are divided into the following classes	> 0 $< 0A$	$> 0A$ $< 0B$	$> 0B$ $< 0C$
The average size of transactions belonging to separate classes (taking into account the reduction in the marginal transactions) comes to . .	$0A_1$	$0B_1$	$0C_1$
The size of not concluded transactions	$> 0A_2$ $< 0A$	$> 0B_2$ $< 0B$	$> 0C_3$ $< 0C$
The selling price and the average cost (for the unit of commodity) in transactions belonging to one of the clases	$\mathrm{tg} \measuredangle P_1 0A$	$\mathrm{tg} \measuredangle P_2 0A$	$\mathrm{tg} \measuredangle P_3 0C$

In figure 8 the price-line *Pm* has been drawn from the data obtained from Fig. 7.

Apart from a number of advantages, the system of discounts creates a certain inconvenience for the buyers, consisting in the reduction of marginal transactions (Figs. 7 and 8); yet it is difficult to perceive any unfavourable feature of this system from the point of view of the entrepreneurs.

The partial application of the system of discounts by enterprises, belonging to a certain branch, causes: — initially — the grouping together of customers (bigger transactions will accumulate in the enterprises granting discounts) whereas in secondary effects — the division of commerce into wholesale and retail comprising in the system of discounts all enterprises selling the same kind of goods.

b. Fixed payments (wholesale). The system of fixed payments consists in the fact that the entrepreneur takes a certain sum from the buyer, in settlement of the constant costs, independent of the size of the transaction (e. g. the monthly subscription in clubs and associations, the visitors' tax in spas, library subscriptions, etc.). Besides these, the buyer pays an additional sum to cover the constant transaction-costs (where there are not variable coss — e. g. a library — the purchaser pays only the constant costs).

In a free-competitive enterprise (working without profits and losses) the price-line depends on the transaction-cost curve.

Usually, however, the variable part of the payment (corresponding to the intersecting line *NP* on the line of price), increases proportionally to the size of the transaction even when the variable costs of the transaction are not strictly proportional to its size.

When the variable costs are insignificant, the application of the system of payments paid in a lump sum enables the diminution of the average price of the goods ($\text{ctg} \sphericalangle P'm0 > \text{ctg} \sphericalangle P''m0$).

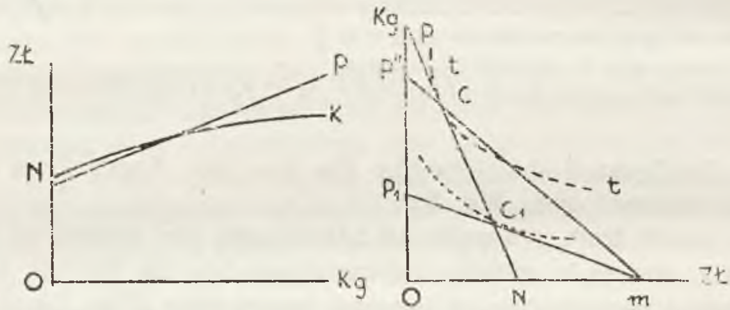


Fig. 9

KNO — the curve of the transaction cost
PNO or PNm — the curve of the variable price
C — the point of equilibrium in the system of payments in a lump sum
C′ — the point of equilibrium in the system of fixed price.

The system of payments in a lump sum is not complicated in use, it does not cause a falling off in transactions of a determined size (marginal); and in many cases thus accomodates sellers as well as buyers.

3. Variable price in a monopolist enterprise. The figure below (Fig. 10) represents a system of buyers' preferences (apart from the system of the sellers preferences). Indifference curves cut as a rule the horizontal axis because the purchaser is in most cases in a position to withdraw and not to buy the goods sold by the monopolist (e. g. he may replace electricity by gas or oil).

Of particular significance for us is the indifference curve t_2t_2, passing through the point *m* (the position of the point *m* on horizontal axis decides the size of the buyers stocks before the completion of the transaction).

The peculiarity of this curve lies in the fact that the buyer will not agree to find himself, on the completion of the transaction, to the left of this curve (he will rather withdraw from this transaction). The indifference curve t_2t_2 represents, then, a limit which cannot be crossed by the monopolist in looking for the point of equilibrium.

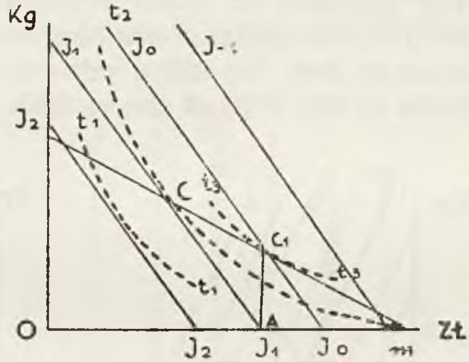


Fig. 10

In Fig. 10 the indifference curves of the buyers ($t_1t_1, t_2t_2, \ldots$) and the indifference curves of the monopolist ($I_0I_0, I_1I_1 \ldots$) have been set together. From an analysis of this diagram it appears that the point C is the most advantageous point of exchange obtainable by the monopolist in this particular case. This point is fixed by the point of intersection of the indifference curve, passing through m with one of the indifference curves of the entrepreneur. It is not difficult to realize that settling a transaction at point C requires of the monopolist an application of the variable price (after the application of the fixed price equalling ctg $\sphericalangle Cm0$ the consumer will get $C'A$ of units of goods, which will diminish the profit of the monopolist by I_1I_0 in money).

From the above it appears that the application of a variable price may considerably increase the profits of a monopolistic enterprise.

a. Discounts, block tariffs. When determining discounts or fixing a block tariff, the monopolist, to a greater extend than a free-competitive entrepreneur, takes into account the peculiarities of the demand for the goods sold by him.

The section mC of the price line should, if possible, follow the course of the indifference curve t_2m, but after having passed through point C it should run along one of the indifference curves of the entrepreneur. A suitable form of the price curve assures largest net profit to the enterprise.

From the figures below (11 and 12) it is not difficult to see that applying the system of discounts the monopolist may approach the point *C* but will never reach it (namely applying the system of discount the monopolist is not in a position to drop the selling price of the additional quantity of goods to the level of the variable costs of the transaction).

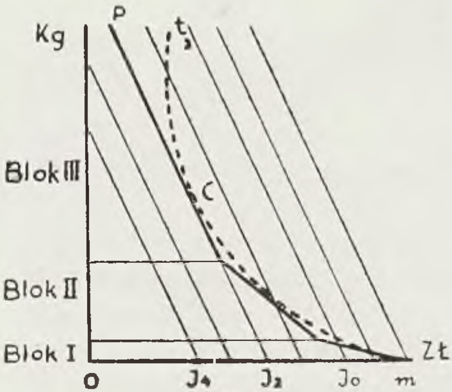


Fig. 11

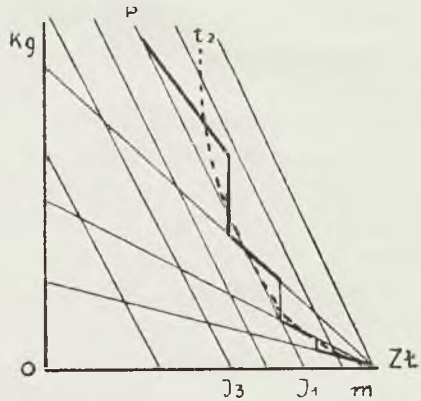


Fig. 12

Owing to this and to the fact that the block tariff does not cause a falling off in the marginal transactions, the application of the block tariff should in many cases be acknowledged as more reasonable than the application of the system of discounts. The block tariff has found its widest application in public utility enterprises.

b. Fixed payments (in lump sums). The price line may be divided in this case into two parts (Fig. 13), namely:

1) Line *PN*, which fixes the amount of the payment, depending on the size of the transaction. *PN* is a tangent to the indifference curve t_2m at the point *C*. The payment (not counting the fixed payment) which the buyer makes for the unit of goods, approximately equals the marginal variable costs of the transaction.

2) The line *Nm* defines the amount of the fixed payment. The difference between the fixed payment and the constant costs of the transaction defines, in this case, the profit of the monopolist (*NI*). The size of the fixed payment may be de-

termined by the monopolist, only on the basis of an analysis of the market.

The monopolistic enterprises which have no constant costs (Fig. 14), apply, with good results, a system of payments

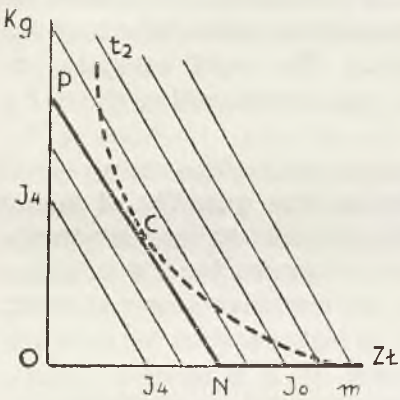


Fig. 13

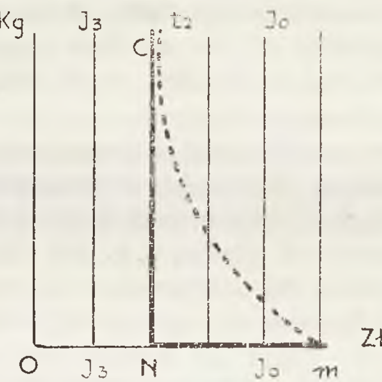


Fig. 14

in a lump sum. In this case the customer is authorized to make unlimited use of the services of the enterprise on the ground of having paid the fixed payment agreed upon.

A characteristic example of the system of fixed payments is the so-called „permits for reductions" applied some time ago by the Warsaw Municipal Tramway Company: to the same category belong telephone rentals, railway season tickets etc.

c. Double differentiation of the price. In order to achieve the best results, the monopolist should fix a special variable price for every purchaser. In practice it is impossible to fullfil this postulate. This is why the monopolist fixes one obligatory tariff for all buyers, or divides the buyers into groups with a similar form of demand for goods within the particular group. In the last-mentioned case, we have to deal with a so-called double differentiation of the price: in this case, namely, the price paid for the goods depends on 1) the size of the transaction and 2) on the group to which the particular buyer has been assigned.

A good example of a double differentiation of price is the Warsaw tariff for electricity. The price of the electric

current depends in Warsaw on 1) the extent of the monthly consumption of electricity as well as 2) the size of the dwelling occupied by the customer.

4. The remuneration of the factors of production. On the whole the factors of production get a fixed remuneration (the norm of remuneration is independent of the quantity of the services supplied). The chief exception to this rule is labour, which often gets remuneration according to a moveable scale.

a. Moveable remuneration and the supply of labour. Increasing remuneration (as the quantity of labour supplied by the workman increases) causes an increase in the supply of labour; e. g. the higher remuneration for overtime enables the entrepreneur to keep the workman longer at work. An increase in wages (as opposed to remuneration for overtime work) could not achieve this result. It is a generally known fact that a higher wages lead rather to a shorter working day.

On the contrary, a decrease in wages causes an increase in the supply of labour. Diminishing remuneration (as the quantity of labour supplied by the workman increases) causes a diminution of the supply of labour. The system of wages for piecework should be recognized as a system of diminishing wages as the last working hours of a workman are in this case worse paid because his efficiency is diminishing. It is therefore a most probable fact that the application of wages for piecework (contrary to the generally agreed opinion) causes the diminution of the supply of work.

b. Moveable remuneration and the demand for labour. If the enterprise has not a monopsonist position in the labour market, then it acquires an optional amount of this factor at the same price (the fixed price for labour); in the opposite case, it acquires the services of labour at an increasing price (a monopsonist enterprise).

Ceteris paribus, the monopsonistic enterprise gives work to a smaller number of workmen and applies more machenized methods of production in comparison to an enterprise which has not a monopsony in the labour market.

5. The variable price and the general quantity of services supplied to society. The spread of the system

of variable price provides society better with goods and services owing to:

a. The habit of the society of buying goods in greater quantities. This causes a diminution in the variable costs of the enterprise (saving a certain amount of productive powers by means of which additional goods and services may be produced).

b. The fuller advantage taken of the productive apparatus (of the constant costs). In this case, namely, the organization of the particular enterprise (telephones, railway lines, theatres, electric works etc.) may supply society with a much greater number of services in comparison with a case of the application of a fixed price.

Dr. Witold Trąmpczyński: *Pojęcie kapitału. Poznańskie Prace Ekonomiczne, nr 24, (The Concept of Capital), Poznań 1937, pp. 151.*

In the first part the author presents the historical development of the conception of capital, in the second he gives the construction of the conception of capital, and demonstrates its utility in economic research.

The notion of capital is, and was, very differently understood. In the beginning, capital meant a sum of exchangeable means which brought appropriate advantages to its owner. Later, the meaning of this was more precisely defined, limiting it to a sum of money lent in order to obtain a profit in the form of interest. By the seventheenth century, however, one may already meet the definition of capital as goods at the disposal of an individual. The mercantilists, faithful in this respect to the mediaeval conception of capital, called capital a sum of money lent or intended to be lent, while the chief stress was placed on the interest received by the lender on this sum. This brought them to the identification of capital with money. The physiocrats also identified capital with money. They did not attribute to the latter, however, the productivity with which, according to them, only the earth was distinguished. Capital appeared, according to them, in the form of

„avances“, — advance payments. These *„avances“* were divided into *„avances primitives“* and *„avances annueles“*. The first correspond to a fixed capital and comprise the sums spent on productive goods, the second correspond to the turnover capital, and refer to wages, salaries etc. Turgot had already detached himself from the identification of capital with money, and called capital, values withdrawn from consumption. For him, therefore, values represent capital. According to the theory of values based on the cost of production dominant at this time, these values are closely connected with goods and subject to the same rules as goods. Adam Smith brought confusion to the conception of capital on one hand, yet on the other, set it on firm foundations, on which it stands up to the present day. He bound capital to income and on this basis, similar to the division of income, he distinguished the capital of an individual, from that of society. The capital of an individual may consist of all kinds of goods destined to bring in income for an individual. The capital of society consists of all kinds of goods the destination of which is to produce income for society. Besides all sorts of goods, Adam Smith also includes human capacity in the capital of society.

The development of the idea of capital in economics after Smith's period ran in three clearly defined lines, which can still be traced up to the present: 1) the transformation of the idea of capital exclusively into a conception of social capital, and its metamorphosis into a notion of productive capital, 2) the maintenance of both ideas of capital, i. e. of social capital, that is of productive capital, and that of individual capital, that is of profit-making capital, along with their parallel elaboration, 3) the limitation of the idea of capital to individual capital and its transformation into a notion of a value. Economists of the first group (the English and German classics and Walras, Paretto, Wicksell. Landry etc.) assumed that the main problem of economics consists in the investigation of social economy and that its central problem is the income of society, which includes only products, or with them also human services. As we obtain the social income first of all by means of production, therefore, to these authors capital means goods serving for production and its function

lies in the production of income in the form of material goods. Capital, comprehended in this way, is productive. The idea of capital, regarded from this point of view, has a rather technical than economic character. Within the limits of this trend many different opinions are encountered, especially when it concerns goods used for production and therefore reckoned with the capital. Since the capital is reckoned with the goods destined for production or taking part in production, the central point of this problem lies in how production is defined and how broadly the idea of taking part in production is concieved. That is why under the heading of capital are included 1) all the goods which surround us including the land, 2) the goods surrounding us not including the land, 3) productive goods used directly for production, 4) a stock of goods for consumption and needed for the maintenance of workmen during the time of production.

The second group of economists (Rau, Rodbertus, Wagner, Böhm-Bawerk, Carver, Marshall, and others) assume that there is one sphere of goods or values producing income for an individual and another producing income for society. That is why one should apply and develop both ideas of capital — the ideas of individual capital and of social capital. Authors of this tendency linked the first idea with the individual income, and the second with the social income. Some of them however, conceive social capital and individual capital as real capital, others conceive them as values, and others still, concieved individual capital as values and social capital as real capital.

Economists belonging to the third group (Menger, Marx, Schumpeter etc.) concentrated their attention on individual capital and transformed this idea into an idea of profitmaking capital, considering capital as a sum of money serving the business man in his business. They did not pay much attention to social capital, deducting it from individual capital. These authors were chiefly concerned with the profitableness of capital and in this manner paved the way towards the transformation of this idea into an idea of value. The last conception was developed in full only in the works of American economists, chiefly Clark, Fisher, Tuttle, Fetter, Knight

and others. For all these authors, capital is a sum of values destined for the production of values. The followers of this idea, which approached very near to the conception of profit-making capital especially in the form applied by Schumpeter and Cassel, first connected the conception of capital as a value, with capital goods, lately however (Knight) they have been neglecting the significance of capital goods, and they have been concentrating their attention only on values. Capital goods are, to them, only a technical detail.

After analysis and criticism of the idea of capital the author gives his construction, based on Böhm-Bawerk, Cassel and Clark. He considers that the chief function of capital is to produce income. For this reason the conceptions of capital and income are correlative.

We distinguish between the income of an individual and that of society. The income of an individual is a sum of economic values which an individual obtains in a certain period of time, whereas the income of society is a sum of economic values received by society. As we distinguish between individual and social income, we distinguish likewise between individual capital and social capital.

The capital of an individual is a sum of values bringing in income for an individual, to be more precise, these are the values of goods, called capital goods, which an individual destines to produce income and which take part in a private production, his own, or someone else's. To this sphere, besides productive goods, belong also goods serving to obtain and to maintain labour, money, immaterial goods which bring in income to an individual such as a business, etc., goods, merchants' and manufacturers' stock, all kinds of goods intended by an individual for sale, to be hired out for a fee, for profitable use, etc. and all kinds of goods in general which serve an individual in business.

Social capital, on the other hand, is all kinds of values which produce income for society. As the essential point for the idea of social capital is social income, arising from economic production which is a creation of utility and consists of change in the form of goods, change in the position of goods, and change in the character of goods, therefore social capital

can be only the sum of the value of goods destined for this production. The function of producing income may be, however, very variously understood, hence one should define clearly the limits of the groups of goods, the values of which lie within the limits of social capial. As a factor in economic production there appear not only technically productive goods but all goods serving for the creation of new utilities, or the augmentation of those existing. That is why social capital is the sum of value of all kinds of goods technically suitable for use in production. In defining this, it should be emphasized that goods as social capital can only be goods intended by an individual directly for production, if they are technically suitable for this purpose. Also in addition to this the land should be included, as from the economic point of view there are no important reasons for treating it separately; the means of maintaining labour during production should be excluded, and treated as income, because in economics we must treat the human as a subject of social economy, and not as its object or means.

The principal feature of this conception of capital is then the separation of social capital from individual capital, and capital as a notion of values from capital goods conceived as real, which however, must also be understood as values.

In conclusion, the author proves the utility of the conception of capital as a value in economic research, applying it to the theory of production, distribution and market conditions, and describing the theory of capitalization and decapitalization. He considers that the last mentioned are implicit principally in the problem of increase and decrease of income. Each change in the amount of income is accompanied by a proportional change in the amount of capital, always provided that the rate of interest is constant. On the other hand, however, apart from changes in the second factor of production, i. e. labour, and alterations in the rate of interest, only from changes in the amount of capital can follow increase or decrease in the amount of income of the individual as well as of society. With these reservations one can speak of the problem of capitalization and decapitalization or accumulation and de-accumulation of capital.

In the sphere of capitalization the author, following the work of Röpke, distinguishes 1) capitalization by ordinary saving, 2) private capitalization of enterprises, 3) capitalization by state, and 4) capitalization by inflation. The most debateable method of capitalization is the last mentioned. Saving ensues compulsorily during the period of inflation, in consequence of the lack of proportion between the amount of income and the amount of consumption goods; for the same reason, the expenditure of the masses increases and the prices of some of the goods rise. Whereas there is no doubt that inflation in its early stages may sometimes act as a creator of capital, its later stages are usually accompanied by decapitalization, so in the end decapitalization may outweigh capitalization .Many investements made during inflation appear to be unprofitable after the breakdown which usually comes sooner or later. These effects can be avoided only in certain cases, that is while applying the methods of inflation very cautiously and slowly. Such a case might take place when, during the financing of the national economy by means of credits, not all capital goods are exploited in full and when, by the increase in the amount of currency they can be changed into capital.

Doc. Dr. Wincenty Styś, *Rozdrobnienie gruntów chłopskich w byłym zaborze austryjackim 1787—1931 (The Subdivision of Peasant Farms in the former Austrian Poland in the years 1787—1931), Lwów 1934, pp. 362.*

The agricultural structure of Poland is predominantly based on family farms. The increase in the agricultural population is accompanied by subdivision.

The problem of subdivision of peasant farms has been treated by many authors, but until now nobody has been able to study this phenomenon throughly, because the data given in official statistics were very inadequate and for the most part did not go back beyond the beginning of the present century. The author has made an attempt to use, for the first

time, the documents of the land tax cataster as sources for what may be considered a very detailed study of subdivision during the last 150 years.

The first land tax cataster was made by Austrian authorities in Galicia in 1787 by order of the Emperor Joseph II (hence the name: Josephinian cataster). Then it was corrected and brought up to date in 1820 (Franciscanian cataster). About 1850 a modern cataster was created with very detailed maps for each individual village, whereas previous catasters contained no maps. In 1883 there was a general revision of the new cataster. All changes which occurred between 1850 and 1883 have been noted in the documents and on the maps.

The catasters of 1787, 1820, 1850, 1883 and the „Statistics of Agricultural Production" of 1930 and 1931 permit a very exact study of the evolution of the agricultural structure of Southern Poland. But there is one drawback to them. It was necessary to calculate the area of each individual farm at each date on the basis of documents. This compelled the author to limit his study to twenty sample villages, the aggregate area of which is 31,257 hectares and the number of peasant farms, in 1931, 6,791. The author's study is therefore a monograph dealing only with a small fragment of the total area of that part of Poland (which exceeds 7.2 million hectares) and of the total number of farms (which amounts to 1.2 million). To be able to draw from that fragment the inferences concerning the whole country, the author has chosen the villages very carefully, endeavouring to make his choice as representative as possible. They are situated in six districts of three South Eastern województwo (counties) and differ from each other with regard to nationality, language, religion, the law on which they were founded, the state of their ancient feudal owners, customs concerning the inheritance of peasant property, etc. In spite of all these differences the process of subdivision was developing everywhere in a very similar manner.

The summary of the figures for all twenty villages is as follows:

TABLE 1

The growth of population and the subdivision of peasant forms in 20 villages of 3 South Eastern counties

Year	Population		Farms		The average number of people living on one farm	The peasant land		The number of rural population on 1 km² of peasant land	The size of farms	
	Number	Index	Number	Index		Area in ha	Index		The average in ha	Index
1787	15,465	100	2,343	100	6·6	16,966·0	100	91	7·2	100
1820	17,707	114	2,601	111	6·8	17,829·6	105	99	6·9	95
1850	20,950	135	3,306	141	6·3	18,450·6	109	114	5·6	77
1883	24,629	159	4,448	190	5·5	18,466·9	109	133	4·2	57
1931	34,951	226	6,791	290	5·1	21,558·1	127	162	3·2	44

The population was growing steadily. The average yearly increase was:

In the years 1787—1820 +0·439%
„ „ „ 1820—1850 +0·610%
„ „ „ 1850—1880 +0·585%
„ „ „ 1880—1931 +0·822%.

During the period 1850—80 the average growth of the population was slower, because during the decade 1850—60 the number of inhabitants of the twenty villages in question decreased by 1·5% in consequence of epidemics and hunger.

The number of farms increased more slowly than the population up to 1820, and then more quickly. The average yearly increase was:

In the years 1787—1820 +0·334%
„ „ „ 1820—1850 +0·903%
„ „ „ 1850—1883 +1·047%
„ „ „ 1883—1931 +1·098%.

The number of farms increased after 1820 more quickly than the population because there was a steady decrease in

the average number of persons living on one farm, from 6·6 in 1820 to 5·1 in 1931. As the farms become smaller they do not need so many workers as before, especially as the quality of agricultural implements and the methods of tillage have been greatly improved. Family labour suffices to-day for most peasant farms. The comparatively slow increase in the number of farms in the period 1787—1820 is due to a law created by Joseph II in 1787, which forbade the division of the existing farms. This law, which from the very beginning was often infringed, gradually lost its significance in the course of the nineteenth century, and was finally abolished in 1868. At the present time we have among the agricultural population by 26% more independent farmers than we had in 1820. The author calls this development, the tendency towards emancipation, since it is also caused to a large degree by the conscious effort of most Polish peasants to become independent farmers on their own soil. This tendency was hampered as long as the peasant holding was burdened with the duty of socage under the old feudal system, but with its abolition in 1848 the tendency towards emancipation developed freely.

The aggregate area of peasant soil was increasing constantly during the whole period under investigation. The average yearly increase was:

In the years	1787—1820	+0·154%
„ „ „	1820—1850	+0·116%
„ „ „	1850—1883	+0·003%
„ „ „	1883—1931	+0·349%.

Till the abolition of serfdom (1848) the area of land in the possession of peasants was increased only if the lord of the manor was willing to establish new settlers on his soil with the object of increasing the amount of labour due to him by the peasant small holders. This was often the case in the South Eastern counties of Poland since those regions were greatly depopulated by the wars of the seventheenth century and there was a great disproportion between the demand for labour on the part of the lord of the manor and the the supply of it. To extort more labour from the existing settlers was both impossible and prohibited by Austrian legis-

lation. Therefore new colonization was necessary. This was in progress during the eighteenth and the first half of the nineteenth century and the area of peasant land was growing. The abolition of serfdom stopped this process as it removed the landlords' incentive to encourage colonization. Between 1850 and 1883 the individual peasants' land property increased very little because, although some peasants got pieces of manorial land as an equivalent for the abolition of their serf rights, others lost nearly the same amount of land to Jewish usurers. Between 1883 and 1931 the aggregate area of peasant land has grown considerably because of the parcellation of big estates.

The cause of the mass purchase of land from big landowners by the peasants was as follows: if his own farm is not big enough to provide a living for the whole family, a peasant in an overpopulated agricultural country is entirely, or at least partly, unemployed. He endeavours therefore to secure employment for himself and his family by buying a farm or expanding the area of what he has by the purchase of land from big estates. He estimates the value of land not on the basis of capitalized rent but on the basis of his total income from the land, which consists not only of the rent, but also of the remuneration for his family labour and although the disutility of labour is also taken into account, yet the value of land is higher for him than for a capitalist farmer. For these reasons the peasant already offered at the end of the nineteenth century such high prices for land that many big land owners preferred to sell their estates and to invest their money in other branches of social economy or to live as rentiers. This parcellation movement was especially strong in the years 1900—14. The bulk of the money earned by Polish emigrants (very numerous at that time) in Germany, Denmark and the United States was used for the purpose of buying land. In consequence of an enormously strong demand, the price of land rose to a higher level than in any other country in Europe. There was also of course much speculation. The War slackened this process but did not stop it altogether. In general the big landed property-owners (the Church included) sold in the period 1883—1931, 2951·79 hectares in the twenty villages

investigated, whereas the total figure for the whole of Austrian Poland was well above 700,000 hectares. Up till the War the sales were completely voluntary. After the War and especially since 1925 the State has been exercising some pressure on big land owners to induce them to give up part of their land for sale.

Because of the gradual enlargement of peasant land property, the density of rural population, to one square kilometre (100 hectares) of peasant land was increasing more slowly (index 178) than the absolute number of rural inhabitants (index 226).

The average size of peasant farms shows the following average yearly decreases:

In the years	1787—1820	—0·163%
„ „ „	1820—1850	—0·618%
„ „ „	1850—1883	—0·778%
„ „ „	1883—1931	—0·492%.

It can be clearly seen from the above figures that the decrease in the average size of peasant farms was less in the years 1883—1931 than in the previous periods, which is the more remarkable as the number of farms was then increasing more quickly than ever. This is the result of the parcellation of big estates by means of which the peasant farmers were augmenting the area of their land. But this favourable effect of parcellation did not last long. In the course of his investigation Dr. Styś has stated beyond any doubt that the increase in the average size of farms in this way has everywhere slackened the rate of emigration from the village, sometimes even caused immigration, stimulated early marriages and quickened the growth of the population to such a degree that within one or two decades the average size of the farm was well below its former level in consequence of an enhanced subdivision. The more land the peasants bought in a given village, the quicker became the growth of the population and the faster became the decrease in the average size of farms. This is a good illustration of the Malthusian principle of population. If the general economic and social conditions of Poland do not change one cannot except that the present Agrarian Reform will improve the agricultural structure of Poland. As in the past,

so in the future it will only be able to reduce the rate at which the average size of farms is decreasing.

The changes in the groupment of farms as regards their size is as shown on the next page in table 2.

The above figures constitute a rather detailed picture of subdivision. We see that in the course of time the groups of bigger farms gradually dwindle both in number and in area because of an incessant process of subdivision. At the same time the groups of smaller farms increase. The bigger the farms included in a given class, the sooner this class dwindles through subdivision. In the period 1787—1820 only the groups containing farms of 50—100 has. and 20—50 has. were decreasing. All the others were growing larger. In the period 1820—50 the group of farms of 10—20 has. began to dwindle. The lower groups continued to expand. Between 1850 and 1883 we witness a further drop in the number of farms above 10 hectares in size and a further growth in the lower groups in number and in area. In the last period the group of farms of 5—10 hectares also began to dwindle. At the same time the groups of farms of 0·5—2 has. and 2—5 has. increased twofold. On the other hand there was a marked decrease in the number of small holdings (0·05 has.). Up to the second half of the nineteenth century many of them belonged to village craftsmen, especially weavers. The others were owned by agricultural labourers who worked on big estates and the larger peasant farms. When owing to the competition from Austrian and Bohemian factories the home industries of Galicia decayed and the area of big estates and the larger peasant farms decreased, the conditions of existence became worse and worse for these cottagers. So some of them emigrated and some advanced to upper groups of holdings after having bought land.

Comparing the process of subdivision in individual villages, we note that, broadly speaking, the greater the average size of farms in a given village in 1787 the quicker was the subsequent process of subdivision. This again is an illustration of the principle of Malthus. We see that the differences in the average size of farms existing between individual villages became in the course of time smaller and smaller. In 1787 the greatest everage size of a peasant holding was 21·17 hect-

TABLE 2

The grouping of farms in 20 villages

The size of farms in ha	Number of farms	% of the total number of farms	The area of land in ha	% of the total area
The grouping in 1787				
0 — 0·5 ha	254	10·84	47·97	0·28
0·5— 2 „	389	16·60	471·11	2·77
2 — 5 „	547	23·35	1,866·16	11·00
5 — 10 „	619	26·42	4,483·91	26·43
10 — 20 „	353	15·07	5,074·62	29·91
20 — 50 „	180	7·68	4,961·62	29·25
50 —100 „	1	0·04	60·62	0·36
Total	2,343	100·00	16,966·01	100·00
The grouping in 1820				
0 — 0·5 ha	301	11·57	62·82	0·35
0·5— 2 „	398	15·30	484·17	2·71
2 — 5 „	601	23·11	2,040·95	11·45
5 — 10 „	704	27·07	5,037·00	28·25
10 — 20 „	460	17·69	6,456·27	36·22
20 — 50 „	137	5·26	3,748·36	21·02
50 —100 „	—	—	—	—
Total	2,601	100·00	17,829·57	100·00
The grouping in 1850				
0 — 0·5 ha	509	15·40	75·06	0·41
0·5— 2 „	517	15·64	604·11	3·27
2 — 5 „	887	26·83	3,094·78	16·77
5 — 10 „	887	26·83	6,329·30	34·31
10 — 20 „	402	12·16	5,634·98	30·54
20 — 50 „	104	3·14	2,712·39	14·70
50 —100 „	—	—	—	—
Total	3,306	100·00	18,450·62	100·00
The grouping in 1883				
0 — 0·5 ha	780	17·54	125·16	0·68
0·5— 2 „	969	21·79	1,174·59	6·26
2 — 5 „	1,359	30·55	4,575·32	24·78
5 — 10 „	950	21·36	6,663·06	36·08
10 — 20 „	332	7·46	4,409·45	23·88
20 — 50 „	57	1·28	1,461·30	7·91
50 —100 „	1	0·02	58·03	0·31
Total	4,448	100·00	18,466·91	100·00

The size of farms in ha	Number of farms	% of the total number of farms	The area of land in ha	% of the total area
The grouping in 1930—1931				
0 — 0·5 ha	495	7·29	127·32	0·59
0·5— 2 „	2,218	32·66	2,981·76	13·83
2 — 5 „	3·038	44·74	10,279·68	47·69
5 — 10 „	902	13·28	6,149·74	28·53
10 — 20 „	122	1·80	1,531·86	7·10
20 — 50 „	16	0·23	487·75	2·26
50 —100 „	—	—	—	—
Total	6,791	100·00	21,558·11	100·00

ares, the smallest 3·72 hectares. In 1931 the greatest average size was 5·12 hectares and the smallest 2·52 hectares. There exists then, in the process of subdivision, an ever growing tendency towards equalization, the symptoms of which are: 1) quicker dissolution of bigger units than of smaller ones, 2) greater difficulty of creating new bigger holdings by purchase or inheritance, 3) the dwindling of the group of smallest farms, 4) the gravitation of all peasant holdings in a given village towards the average size in that village, 5) the gradual equalization of that average in all the villages of the country in so far as this is possible, taking into account the difference in the quality of the soil, cultural tradition, standard of living, possibilities of additional earnings beside agricultural ones, and so on.

From the fact that in the villages of a lower average size of farms the process of subdivision was much slower than in the villages of a higher average size, Dr. Styś infers that there is a limit of subdivision below which the average size of farms cannot fall. This limit he sees in the minimum standard of living of peasant families. Since this minimum is by no means a stable item, and since the quality of the soil differs in different villages, the limit cannot be indicated by an exact figure. But undoubtedly the average size of peasant farms in the whole of Southern Poland is already very close to this limit and therefore the present slower progress of sub-

division is more painfully felt by the peasants than the quicker progress of it was felt by their fathers and grandfathers.

If the agricultural population of Southern Poland continues to grow, the process of subdivision will go on. But the decrease in the average size of farms will in the future probably continue at a still slower rate than in the period 1883—1931. One may except that in the face of misery the natural growth of population will decline. The stimulus which the Agrarian Reform is exercising on it will be more and more neutralized by birth control which is beginning to be practised among the rural population. The best cure of subdivision would be a strong industrial development.

As long as the process of subdivision cannot be stopped the task of the agrarian policy is to mitigate its unfavourable effects. This is done by parcellation of big estates, enclosure of peasant farms, division of commons, abolition of servitudes, amelioration and efforts to increase the yields per hectare. In the existing conditions, the emigration of rural population has, and will have for some time to come, a great importance.

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